

Thirty-Ninth Annual Catalogue

OF THE

North Georgia
Agricultural College

(Department of the University of Georgia)

AT

DAHLONEGA, GEORGIA

CHARTERED A. D. 1871

The First Normal College Course Authorized
by the State
(Act of 1877)

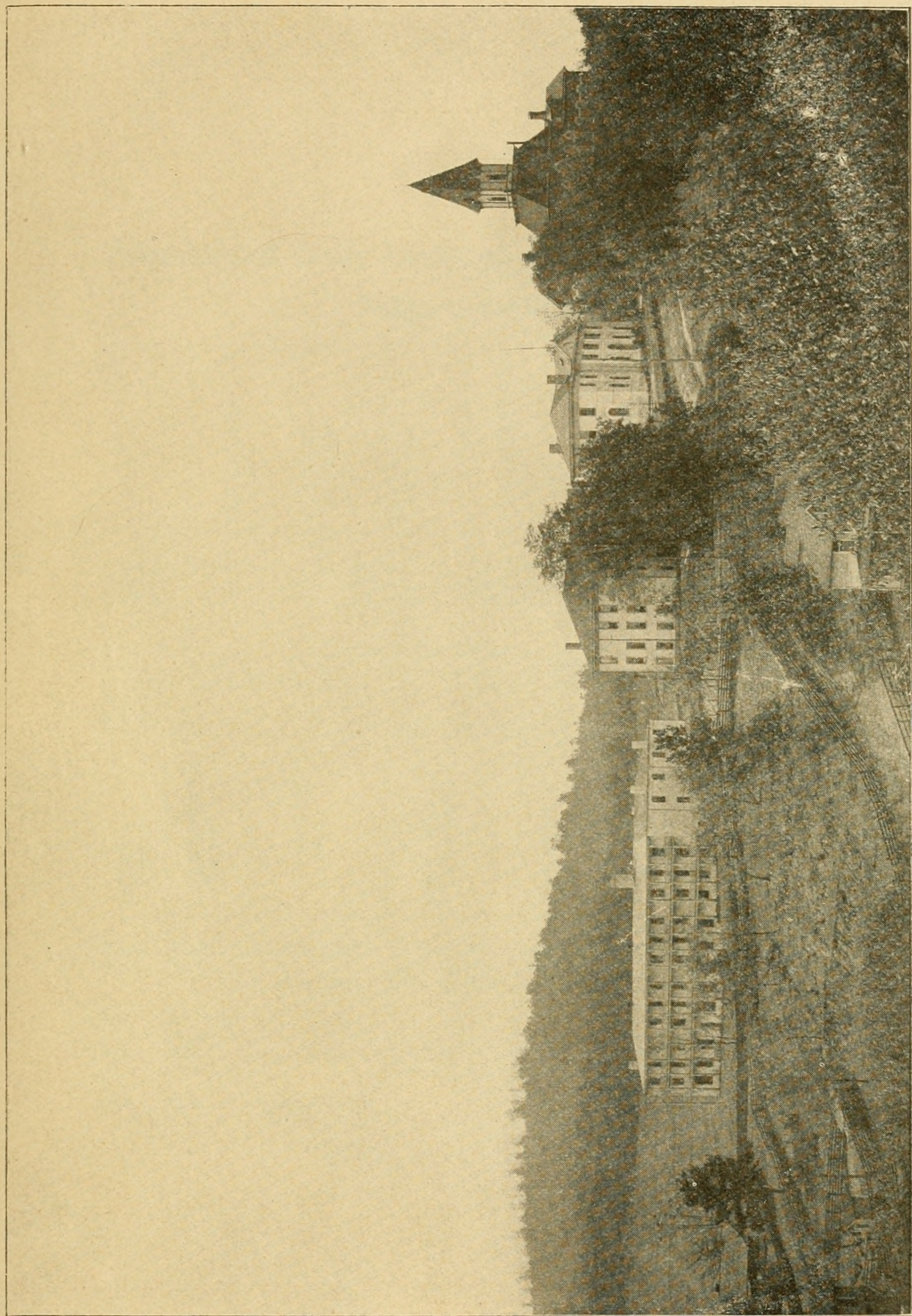
1910 - 1911

Announcements for

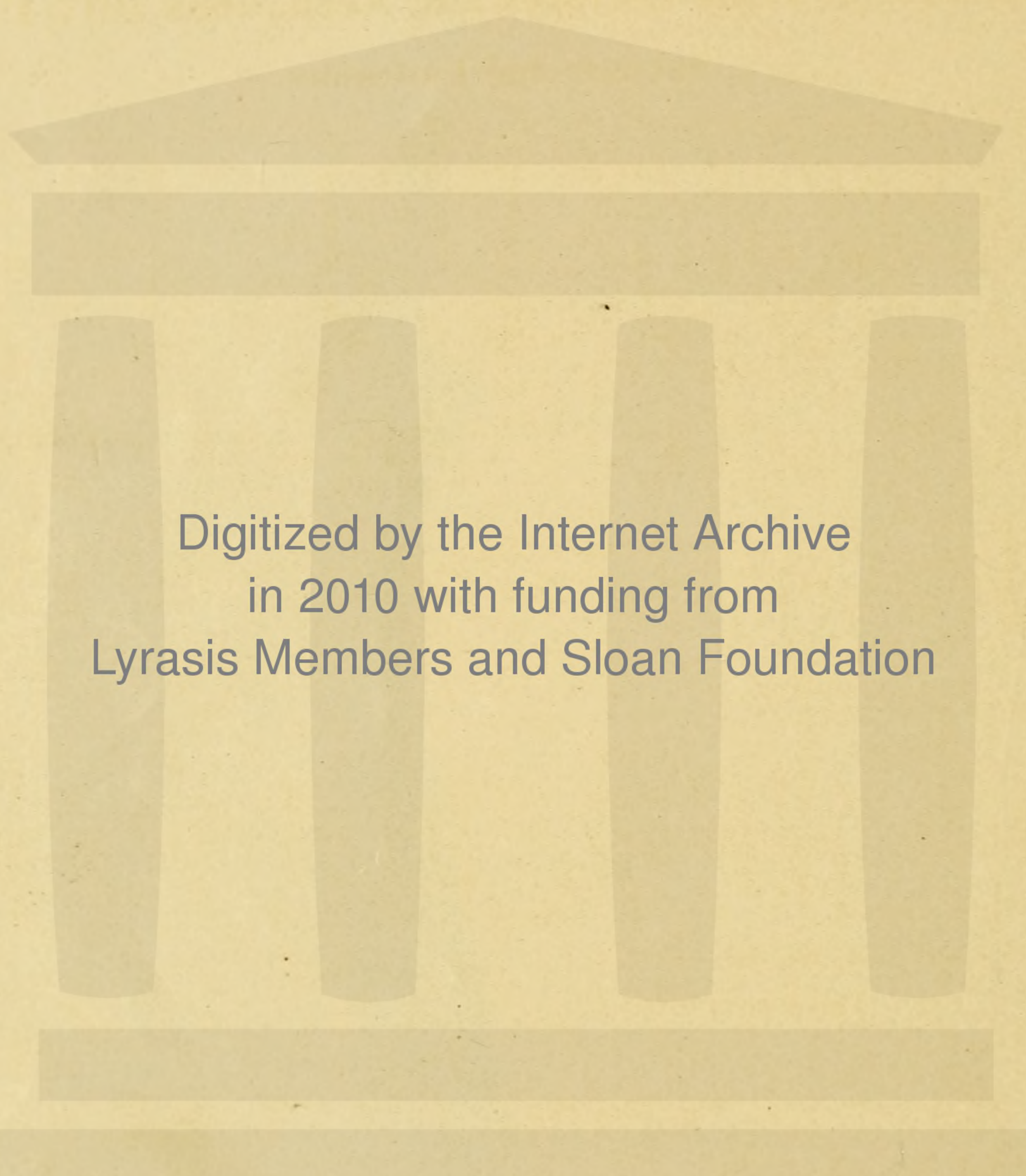
1911 - 1912

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GROUP OF COLLEGE BUILDINGS.



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Schedule of Daily Lectures and Recitations 1911-1912.

Subjects and Professors.

	EDUCATION GLENN	SCIENCE GAILLARD	LATIN VICKERY	MATHEMATICS BOYD	FRENCH MISS MERRITT	HISTORY BRADLEY	ENGLISH CAMP
1-9 a.m.	Fresh 2		Soph	3d. Prep	Fresh	Jun. 2, Sen. 3	Jun.3,Sen.2
2-9:45		Jun	Fresh	Sen	Fresh-Drawing	Soph. 3	
3-10:30		Sen	3d. Prep	Jun		Fresh	Soph
4-11:15			Jun. 3, Sen. 2	Soph		1st Prep .3	Fresh
5-12m	Soph. 2	Fresh		Fresh	Soph	2nd Prep. 3	3d Prep
6-12:45	Jun.2,Sen.3	Soph			Jun. 3, Sen. 2	3d. Prep. 4	2d Prep
7-2:30							
8-3:30		Lab					

MINING SNYDEK	AGRICULTURE NIVEN	APPLIED MATH. BARNES	ASS'T. ENG. CAVENDER	BUSINESS SHULTZ	GERMAN AND BAND STEINER	DOMESTIC SCI. Miss MCGILL	COMMAND'T WIEGENSTEIN
Fresh	Fresh	1st Prep. Math.	2d Prep. Sci.	Soph	Fresh. Ger		
Soph	Soph	2d Prep. Bus	1st Prep. Sci.	3d Prep.			
			2d Prep. Lat				
Jun.	{ 3d Prep.						
	Sci.						
Sen	Sen		1st Prep. Eng	Fresh			
	Jun		1st Prep. Lat.	Jun		1st Prep. Bus.	
Lab	Lab	Soph (Survey- ing)		Lab	Band		Drill
							Tactics

CALENDAR, 1911-12.

Fall term begins	September 6, 1911
Entrance Examinations	September 6-7
National Thanksgiving	November 30
Christmas Holidays	December 22 until January 3, 1912
Fall Term Ends	December 31
Spring Term Begins	January 1, 1912
Lee's Birthday	January 19
Field Day	April 1
Decoration Day	April 26
Commencement Sermon	Sunday, June 3
Annual Meeting of Board of Trustees	Monday, June 4
Commencement Day	Wednesday, June 6

BOARD OF TRUSTEES.

W. B. McCANTS, President	Winder
A. J. CAVENDER, Vice-President	Dahlonga
R. H. BAKER, Secretary	Dahlonga
H. D. GURLEY	Dahlonga
F. CARTER TATE	Jasper
JOHN P. CHENEY	Marietta
A. S. HARDY	Gainesville

FROM THE UNIVERSITY BOARD.

HOWARD THOMPSON	Gainesville
HARRY HODGSON	Athens
JAMES WHITE	Athens

Faculty and Officers.

1910-1911.

DAVID C. BARROW, C. & M. E.
Chancellor of University.

GUSTAVUS R. GLENN, A. M., L. L. D., President
Professor of Philosophy

BENJAMIN P. GAILLARD, A. M., Vice-President
Professor of Chemistry, Physics, Geology

E. B. VICKERY, A. M., Secretary
Professor of Latin Language and Literature

J. W. BOYD, A. M.
Professor of Pure Mathematics and Astronomy

GEORGE W. CAMP, A. B., A. M., Master's Diploma Sec. Ed.
Professor of English Language and Literature

J. C. BARNES, B. S.
Professor of Applied Mathematics

W. J. BRADLEY, A. M.
Professor of History and Economics

C. F. NIVEN, B. Agr., M. S.
Professor of Agriculture

EDWARD STEINER
Professor of German, and Director of Music

MISS MARY MERRITT, A. B.
Professor of French and Drawing

CARL SHULTZ, B. Ped., B. B. S.
Professor of Business Science

BYRON J. SNYDER, B. S., Met. E.
Professor of Electrical and Mining Engineering

F. C. CAVENDER, B. S.
Assistant Professor of English

MISS L. GLADYS MCGILL
Professor of Domestic Science and Physical Culture

H. A. WIEGENSTEIN, First Lieutenant 25th, Infantry, U. S. A.
Professor Military Science and Tactics, and Commandant of Cadets

MISS OLA HEAD,
Librarian.

HOMER HEAD, M. D.
College Surgeon

FACULTY COMMITTEES

Course of Study

J. W. BOYD,	E. B. VICKERY, Chairman	GEORGE W. CAMP
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Dormitory

CARL SHULTZ,	J. W. BOYD, Chairman	GEORGE W. CAMP
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Library

BENJAMIN P. GAILLARD	J. W. BRADLEY, Chairman	GEORGE W. CAMP
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Brown Fund

E. B. VICKERY,	J. W. BOYD, Chairman	B. P. GAILLARD
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Catalogue

C. F. NIVEN BYRON J. SNYDER	DR. G. R. GLENN	B. P. GAILLARD GEORGE W. CAMP
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Athletics

C. F. NIVEN	B. J. SNYDER, Chairman	W. J. BRADLEY
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GENERAL INFORMATION.

ORIGIN AND PURPOSE OF THE COLLEGE.

This College owes its origin to the Act of Congress of July 2, 1862, entitled "An Act donating public lands to the several States and Territories which may provide colleges for the benefit of agriculture and mechanic arts." The Act contemplates the "endowment support and maintenance of at least one college, where the leading object will be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts in such manner as the legislature of the states may respectively prescribe, in order to promote the liberal and practical education of the industrial classes."

The fund having been received by the State, the interest of it was placed under the control of the Trustees of the University by which the North Georgia Agricultural College became a department of the University, the title of the above property being conveyed to the Trustees of the University on the conditions specified in the donation, the Trustees of the University appointing the President of the College, making a certain allowance for its support, to wit: \$2,000 annually, and exercising over it a general supervision.

LOCATION

Twenty-five miles north of Gainesville, nestled among the foothills of the Blue Ridge Mountains and surrounded by many of Nature's most pleasant charms, is situated a college and gold mining town bearing the beautiful Indian name, Dahlonega. Here, sixteen hundred feet above the sea level, with breezes fresh from neighboring mountains and water as pure and clear as the morning dew, is located the North Georgia Agricultural College. It may be truthfully said that the mountain air is a tonic and the sparkling water a panacea. The town being situated on a plateau

almost surrounded by mountains, the winter climate is mild and reasonably dry; in spring, summer and autumn it is ideal. The town is unusually free from bad influences. Students who come here are comparatively free from the common vices of city life and are under the over-shadowing presence of the "everlasting hills," a silent, but not the less potential influence for good over the lives of young people that nobody has ever yet clearly explained.

COLLEGE GROUNDS AND BUILDINGS.

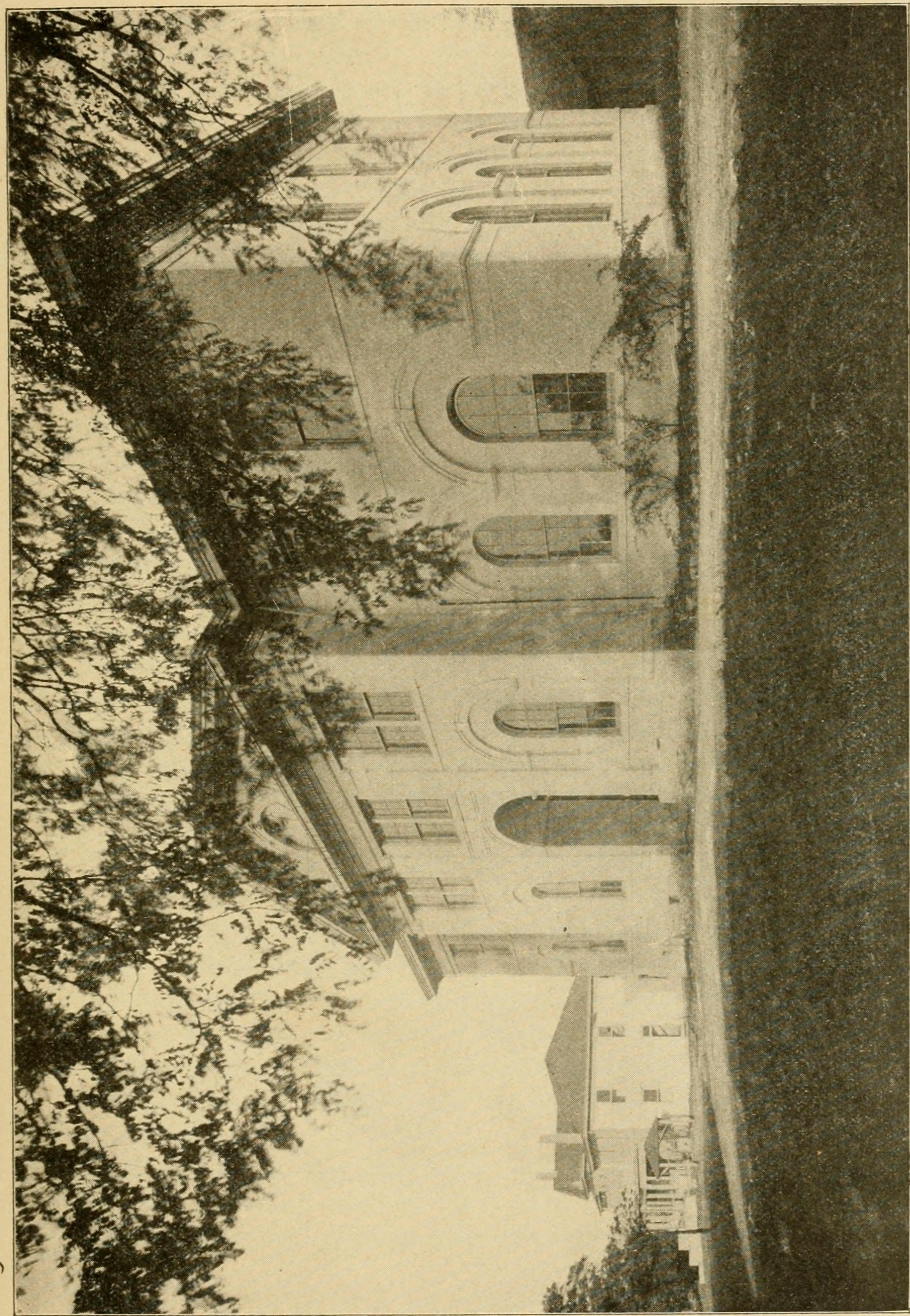
The College campus and farm consists of forty acres, beautifully located and well situated for college purposes. The main college building is located on a high knoll overlooking the town. In front is a pretty lawn gently sloping toward the center of town. In the rear are located the drill grounds, the athletic field, and the college farm, all conveniently situated, and afford ample space for the purposes for which they are used.

The main building which stands on the exact site of the old United States mint, contains twelve lecture rooms and offices, the college chapel, armory, and the two literary society halls. Each of these contains suitable furniture and apparatus. In the basement are located the Business Department, the office and orderly room of the Military Department. On the first floor are the Departments of English, History, Ancient Languages, Pure Mathematics, and French and Art.

To the right of the main building is located Bostwick Hall, the gift of Mr. J. H. Bostwick of New York. This building was completed in 1899. On the first floor are the President's office, the department of Applied Mathematics, and the Library. On the second floor are located the departments of Science and of Agriculture together with their laboratories.

Next beyond Bostwick Hall is situated what is known as "the Girls' Dormitory" which contains the office of the Superintendent of Barracks and comfortably furnished rooms for about fifty students.

To the rear of this is the new dormitory which was completed in 1907. This building is steam-heated and electric lighted, and



BOSTWICK HALL.

contains well arranged and comfortably furnished rooms for about one hundred students.

The Mining Department occupies a temporary building across the drill field from the main building. In this building are the office, lecture room, drafting room, mining laboratory, assaying laboratory, and shop of this department. This building is not pretentious but on visiting this department one can not fail to be impressed with the great importance of the work done here.

THE COLLEGE LIBRARY.

The students have the use of a carefully selected library under the general supervision of a committee from the faculty, with a librarian regularly in charge. Nearly all the books have been chosen specially for the students, and new purchases are made twice a year from a fund appropriated for this purpose. A liberal selection of the best current literature, and the leading daily papers of the state are available to the students in the reading room. A complete card catalogue and an index to periodical literature enables students to use the books and bound volumes of magazines to the greatest advantage. The library is also a depository for the publications of the United States government. Specially chosen department libraries are being accumulated for the use of students in parallel reading and investigation.

ELECTION OF STUDIES.

A. B., B. S., and B. Ph., students above Sophomore class will be allowed to select their studies, so far as the schedule of recitations will permit, after consultation with a special committee appointed from those members of the faculty with whom the work of these courses is done, the decision of that committee being subject to other regulations regarding irregular courses, number of studies, etc.

All students in the Prep classes will be required to take some regular course laid down in the catalogue. Students in the collegiate classes who wish to take irregular courses shall have at

least five studies a day, two laboratory periods being counted as one study. Exceptions to this rule will be made only in case of students who file with the chairman of the committee on courses the college surgeon's certificate of physical inability.

THE DORMITORIES.

The dormitories on the College grounds will accommodate 150 students. Each dormitory will be under the immediate supervision of a resident member of the faculty, thus securing personal attention to the needs of the students that can be brought about satisfactorily in no other manner.

The system of discipline employed in the dormitories will be, as it is throughout the College, military in its nature, but so arranged as to give to each student all the liberty warranted by continued good conduct and high class standing.

All male students, except those who live here and those who are able to make more economical arrangements elsewhere, are required to live in the dormitories.

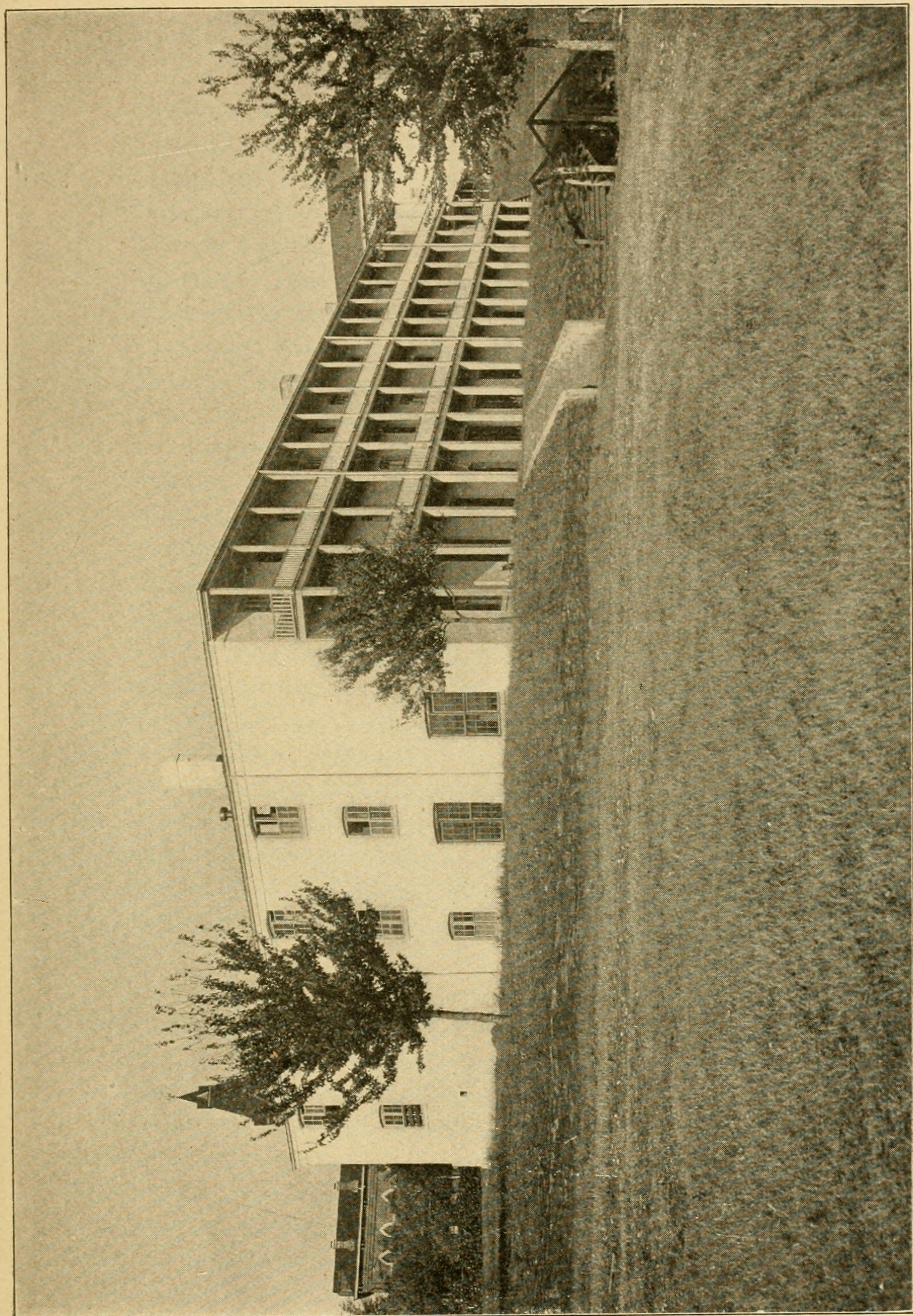
ROOM FURNISHINGS

STUDENTS WILL FURNISH TOILET ARTICLES, BED-CLOTHING AND PILLOW. Board will be \$10.00 per month of four weeks payable in advance. This will include electric lights.

It is recommended, that cadets express or ship all articles needed in rooms, such as cover, pillow, etc., at least one week before they expect to arrive in Dahlonga. These articles should be directed to the Superintendent of Barracks, Dahlonga, Ga. (via Gainesville.)

When this course is followed out the cadet will find the articles placed in his room on his arrival, thus obviating the inconvenience due to delays occasioned by not receiving trunks promptly.

The general control of the dormitories is vested in the President and Faculty, who will make and enforce such rules as may appear necessary to secure the best results.



NEW DORMITORY.

EXPENSES.

Breakage Deposit-----	\$ 2.50
Incidental Fee (per year)-----	10.00
Books and Stationery (per year)-----	15.00
Washing, about (per year)-----	10.00
Library Fee (per year)-----	2.00
Dormitory Board, about (per year)-----	100.00
Typewriting Fee (per year)-----	6.00
Chemistry Fee (per year)-----	4.00
Blue cap, blue blouse, grey trousers and black shoes	18.75
Two pairs white duck trousers-----	2.50
Service cap, blouse, trousers, and tan shoes -----	18.24
One pair leggings-----	.65
White belt, and half dozen pairs of white gloves--	1.75
One-half dozen standing collars-----	.75
Biological Fee (per year)-----	2.00
Quantitative Chemistry Fee (per year)-----	6.00
Soil Physics Fee (per year)-----	2.00

Students entering College January 4th, the beginning of the Spring Term, are required to pay only a proportional part of the above mentioned expenses.

When no damage to College property is charged against cadet, the breakage fees will be returned at the end of the school year.

Annual expenses are made as economical as possible, and will run from \$150.00 to \$175.00 When students bring their supplies from home, expenses can be reduced to an amount not exceeding \$80.00.

The expenses of the first month of the term include nearly all but the monthly board and washing, and amount to nearly \$60.00. In order that a student shall start promptly and efficiently in his class, provision should be made for this.

A student bringing the appointment by his county school commissioner, representative, or senator, will be allowed a credit of \$2.50 on his incidental fee, for the term for which he is appointed, thus making matriculation fee \$2.50 per term. This certificate must be presented on entering college.

The estimate does not include traveling expenses to and from

College. Stage fare from Gainesville to Dahlonga is \$1.50 for each person and 50 cents for each trunk. Pocket-money depends on individual wishes, but should be moderate.

The special fees are charged only those who take a particular subject and are intended to cover merely the cost of material.

Some expenses that can not be foreseen, will necessarily occur, but parents and students can feel assured that so far as the College is concerned, everything will be managed on the most economical basis.

THE CHARLES McDONALD BROWN FUND.

From the Charles McDonal Brown Scholarship Fund the institution receives \$1,170.00 annually. This is to aid worthy young men who are unable to pay their way through college. The applicant must be at least eighteen years of age, in good health, and must reside in one of the following counties: Rabun, Habersham, Towns, Union, Fannin, Dawson, Murray, White, Lumpkin, Gilmer, Pickens, Cherokee and Forsyth in Georgia, and Oconee, Anderson, and Pickens, in South Carolina.

This sum will be divided into sixteen equal parts allowing one part to each county. It is the purpose of the bequest to aid one young man from each of the counties above named. All applications must be sent to the Chairman of the Brown Fund Committee on or before September 1st of each collegiate year.

LITERARY SOCIETIES.

There is no part of the college course more valuable than the training derived from taking an active part in a good literary society. It is here that one learns to think and speak while standing, and to grapple with his antagonist in a mental contest.

There are two well organized literary societies, the Decora Palaestra and the "Phi Mu." These societies furnish unexcelled opportunities to students who wish to develop and improve themselves in Elocution, Composition and Debate. These societies meet each Monday for debate and for such other exercises as come in that line.

Joint debates between these societies are held at intervals during the term. The Champion Debate is held during Commencement week, and forms an important part of those exercises.

One or more intercollegiate debates will be arranged for during the year.

The drill in the use of Parliamentary Law is an important feature of society work, for nowhere can parliamentary usages be so well learned as in well regulated debate.

These societies are valuable auxiliaries to the Department of English and to the literary culture of each of their members, and are so recognized.

MISCELLANEOUS

Students, on arriving, must immediately report at the dormitories and must at once consult the President about arrangements for board and for directions about registration.

The discipline of the College is under the immediate direction of the Commandant of Cadets. Serious offenses against good order are passed upon by the entire faculty.

The Fall Term begins always on the first Wednesday in September, and the Spring Term ends the first Wednesday in June.

During the last session we had students from about seventy counties in Georgia. Almost without exception students who spend a year here are greatly improved in health. We have "plain living and high thinking" in the mountains. We encourage athletic sports, but do not allow them to conflict with the students' academic work. The average gain in weight for the past year is about 20 pounds.

The average age of a male student is over eighteen years, and a large majority are young men defraying their own expenses. This is not the school for idleness and frivolity, for fun and dissipation; but manly sports, innocent pleasures, regular physical training for all, hard study and excellence in character are the requisites for all who remain here.

SPECIAL ADVANTAGES AT THIS INSTITUTION.

1. There is no finer climate in the world than we have at the foot-hills of the Blue Ridge Mountains.

2. Complete isolation from the diversions of a noisy and distracting city life.

3. The regular and the orderly life that a boy lives here is conducive to the formation of habits that will make him regular and orderly in after life.

4. Every boy is taught here that he must depend upon himself, and that he must first learn how to obey before he can learn to command.

5. The military training that a boy gets here makes him observant, accurate, prompt, and reliable.

6. In addition to the A. B. and the B. S. Courses, we have full courses in Agriculture, Mining, Engineering and Business.

7. Our boys live in our own dormitories, where they are under the immediate control of our own officers all the time.

8. All of the expenses for a year here including board, fuel, lights, washing, clothing, books, fees, etc., can be covered by the expenditure of from \$150.00 to \$175.00.

ADMISSION REQUIREMENTS.

The fourteen units standard has been adopted for entrance into the Freshman class of the North Georgia Agricultural College and **is now in force**. By a **unit** is meant the study of one high school subject for not less than thirty-six weeks, four recitation periods per week, and each recitation period not less than forty minutes. The requirement also means that at least the 7th grade of the grammar school must be completed before the high school or prep work is begun; and that not more than four units of work can be done within one year.

Students are admitted into the Freshman class on a satisfactory examination in subjects enumerated in the "college entrance requirements" or on the presentation of a properly filled out certificate from an "accredited high" school as classified by the University of Georgia.



PHI MU LITERARY SOCIETY HALL.

In view of the dormitory system of boarding and the military system of discipline no student under fifteen years of age will be admitted except under the care of parents or relatives residing in the community.

All entrance examinations will be held during the first two days of the term as indicated by the calendar.

ENGLISH

READING AND PRACTICE—one and one-half units including study of Rhetoric.

Preparation for this part of the work should include the student's ability of writing two or three paragraphs on each of several topics to be selected from a considerable number set before him in examination. The treatment of these is designed to show the student's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. The power to write good English will always be regarded as of greater importance than the knowledge of the books. It is important that the student shall have a thorough knowledge of the fundamental principles of elementary rhetoric.

For Reading and Practice, 1910, 1911.

Group I (two to be selected).

Shakespeare's "As You Like It," "Henry V," "Julius Caesar," "The Merchant of Venice," "Twelfth Night."

Group II (one to be selected).

Bacon's Essays; Bunyan's "The Pilgrim's Progress," Part I; The Roger de Coverly Papers in the "Spectator;" Franklin's "Autobiography."

Group III (one to be selected).

Chaucer's "Prologue and Knight's Tale;" Spencer's "Faerie Queen" (selections); Pope's "The Rape of the Lock;" Goldsmith's "The Deserted Village;" Palgrave's "The Golden Treasury" (first series), Books II and III with special reference to Dryden, Collins, Gray, Cowper, and Burns.

Group IV (two to be selected).

Goldsmith's "The Vicar of Wakefield," Scott's "Ivanhoe" and

"Quentin Durward;" Hawthorn's "The House of the Seven Gables;" Thackeray's "Henry Esmond;" Gaskell's "Cranford;" Dickens' "A Tale of Two Cities;" George Eliot's "Silas Marner;" Blackmore's "Lorna Doone."

Group V (two to be selected).

Irving's "Sketch Book;" Lamb's "Essays of Elia;" DeQuincey's "Joan of Arc" and "The English Mail Coach;" Emerson's "Essays" (selected); Ruskin's "Sesame and Lilies."

Group VI (two to be selected).

Coleridge's "The Ancient Mariner;" Scott's "The Lady of the Lake;" Byron's "Mazeppa" and "The Prisoner of Chillon;" Palgrave's "Golden Treasury" (first series) Book IV, with special attention to Wordsworth, Keats, Shelley; Macaulay's "Lays of Ancient Rome;" Poe's Poems; Lowell's "The Vision of Sir Launfal;" Arnold's "Sohrab and Rustaum;" Longfellow's "The Courtship of Miles Standish;" Tennyson's "Gareth and Lynette," "Lancelot and Elaine," and "The Passing of Arthur;" Browning's "Cavalier Tunes," "The Lost Leaded," "How they Brought the Good News from Ghent to Aix," "Evelyn Hope," "Home Thoughts from Abroad," "Home Thoughts from the Sea," "Incident of the French Camp," "The Boy and the Angel," "One Word More," "Herve Riel," "Pheidippides," Southern Poets.

b. STUDY AND PRACTICE—One and one-half units, including study of Rhetoric.

Preparation for this part of the work includes the thorough study of each of the works named below: a knowledge of the subject-matter form and structure. In addition the applicant will be required to answer questions involving the essentials of English grammar, and questions on the leading facts of English History in those periods to which the prescribed work belongs.

For careful study and practice, 1910, 1911.

Shakespeare's "Macbeth;" Milton's "Lycidas," "Comus," "L'Allegro," and "Il Penseroso;" Burk's "Speech on Conciliation with America" or Washington's "Farewell Address" and Webster's "First Bunker Hill Oration;" Macaulay's "Life of Johnson" or Carlyle's "Essay on Burns."

MATHEMATICS

a. ALGEBRA

(1) To quadratics—one unit.

The four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and lowest common multiple by factoring; fractions, including complex fractions, ratio and proportion; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on lineal equations; radicals, including the extraction of the square root of polynomials and of numbers; exponents, including fractional and negative powers.

(2) Quadratic equations, binomial theorem, and progressions. One half unit.

Simple cases of equations with one or more unknown quantities that can be solved by the method of linear or quadratic equations.

Problems depending upon quadratic equations.

The binomial theorem for positive integral exponents.

The formulas for the 4th. term and the sum of the terms for the arithmetic and geometric progressions, with applications.

b. PLANE GEOMETRY.—One unit.

The usual theorems and constructions of good text-books including general properties of plane rectilinear figures; the circle, and the measurement of angles; similar polygons; areas; regular polygons and the measurement of the circle.

The solution of numerous original exercises, including loci problems.

Application to the mensuration of the line and plane surfaces.

c. SOLID GEOMETRY—One half unit.

The usual theorems and constructions of good text-books, including the relations of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle.

The solution of numerous original exercises, including loci problems.

Application to the mensuration of surface and solids.

d. TRIGONOMETRY—One half unit.

Definitions and relations of the six trigonometric functions as ratios; circular measurement of angles.

Proofs of principle formulas, in particular for the sine, cosine, and tangent of the sum and difference of two angles, of the double angle and the half angle, the product expressions for the sum or the difference of two sines, or of two cosines, of two tangents or of two cotangents, etc., the transformation of trigonometric expressions by means of these formulas.

Solution of trigonometric equations of a simple character.

Theory and use of logarithms (without the introduction of work involving infinite series.)

The solution of right and oblique triangles, and practical applications, including the solution of right spherical triangles.

LATIN

GRAMMAR AND COMPOSITION—One unit.

(1) The inflections; the simple rules for composition and derivation of words; syntax of cases and verbs; structure of sentences in general with particular regard to relative and conditional sentences, indirect discourse and the subjunctive. Translation into easy Latin of detached sentences and very easy continuous prose based upon Caesar and Cicero.

(2) CAESAR—One unit.

Any four books of the Gallic war.

(3) CICERO—One unit.

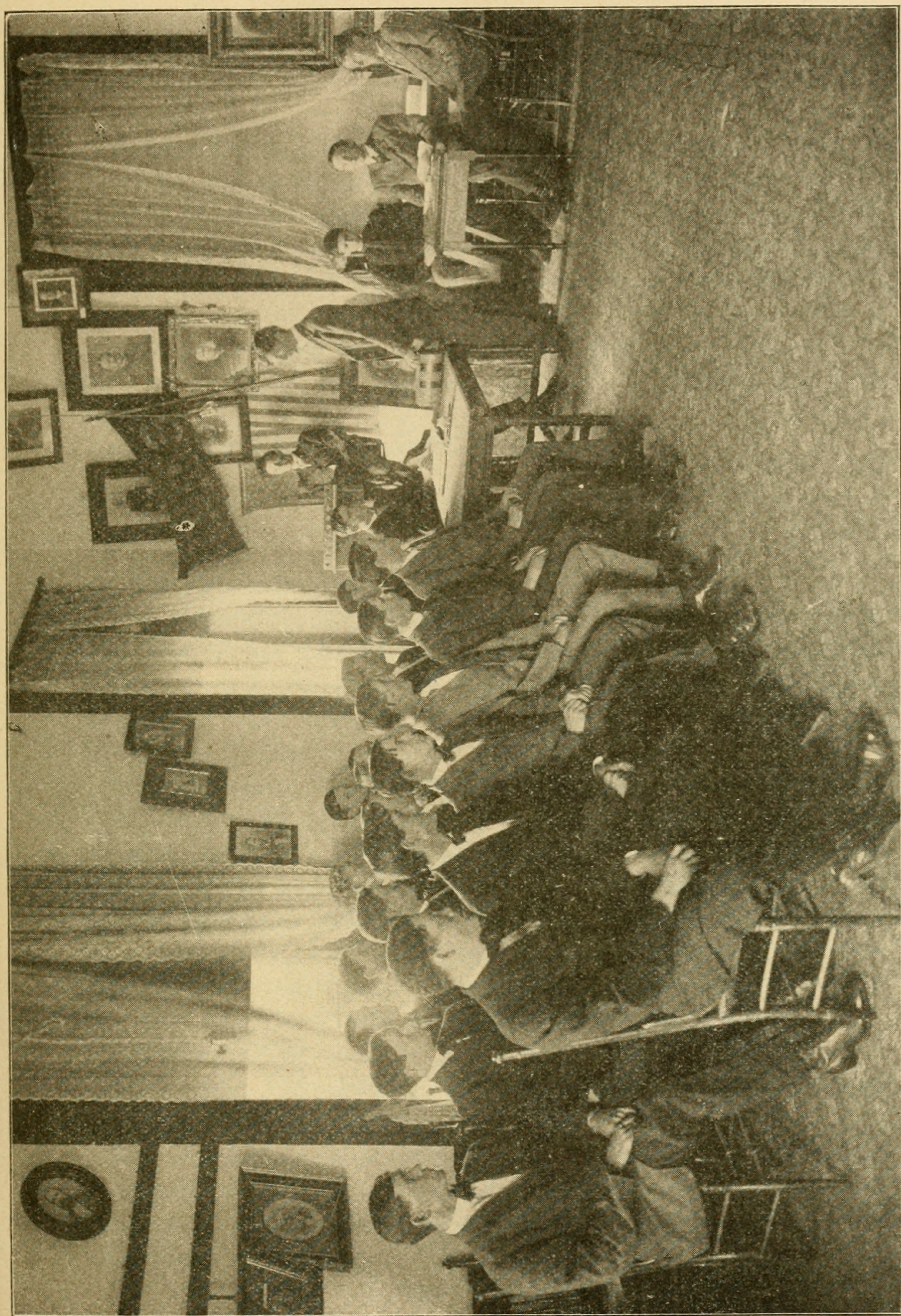
Any six orations from the following list of equivalents; the four orations against Catiline, Archias, the Manilian Law, Marcellus, Roscius, Milo, Sestius, Ligarius, the fourteenth Philippic.

(4) VERGIL—One unit.

The first six books of the Aeneid, and so much prosody as relates to accent, versifications in general and the dactylic hexameter.

Equivalents in Sallust, Ovid, and other Latin Authors may be offered.

In connection with all of the reading there should be constant practice in sight translation and in prose composition.



DECORA LITERARY SOCIETY HALL.

HISTORY

Preparation in history will be given credit upon the basis of time devoted to the study of each branch, rather than on the amount of ground covered. The training in history should require comparison and the use of judgment on the pupil's part, rather than the use of memory. The use of good text-books, collateral reading, practice in writing, accurate geographical knowledge are essential. The accepted groups are ancient history up to 800 A. D., medieval and modern English, American and civics.

Each may attain the credit on one unit.

SCIENCE

a. PHYSIOGRAPHY—One unit.

The preparation in physiography should include the study of at least one of the modern text-books, together with an approved laboratory and field course of at least forty exercises actually performed by the student.

b. PHYSICS—One unit.

The preparation in physics should include individual laboratory work, comprising of at least forty exercises selected from a list of sixty or more; instruction, class-room demonstrations and lectures, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations; the study of at least one standard text-book, to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary physics.

c. BIOLOGY—One unit.

This course includes the following: Animal Biology, Human Biology, and Plant Biology.

The preparation for Animal Biology will include a short course in general natural history; general classification of animals and their chief characteristics, a comparison of general life-processes in animals and plants.

The preparation for Human Biology should include the nature of

foods and their history in the body; the essential facts in digestion, absorption, circulation, secretion, exertion and respiration; the nervous system; the structure of the various organs and their operation; a note-book in which are kept carefully outlined drawings of the chief structures studied anatomically together with the explanations of the drawings are essential.

The preparation in Plant Biology should include preliminary experiments; seed germination; forms, functions, and structures of leaves, flowers, their parts and forms, fertilization and pollination; fruits and seeds. Practical experiments and illustrations should be given in the laboratory and in the field results tabulated in note-book with sketches when practicable.

The following subjects will also be credited when properly taught with laboratory and field practice when practicable:

- d. BOTANY—One unit.
- e. CHEMISTRY—One unit.
- f. ZOOLOGY—One unit.
- g. PHYSIOLOGY—One unit.

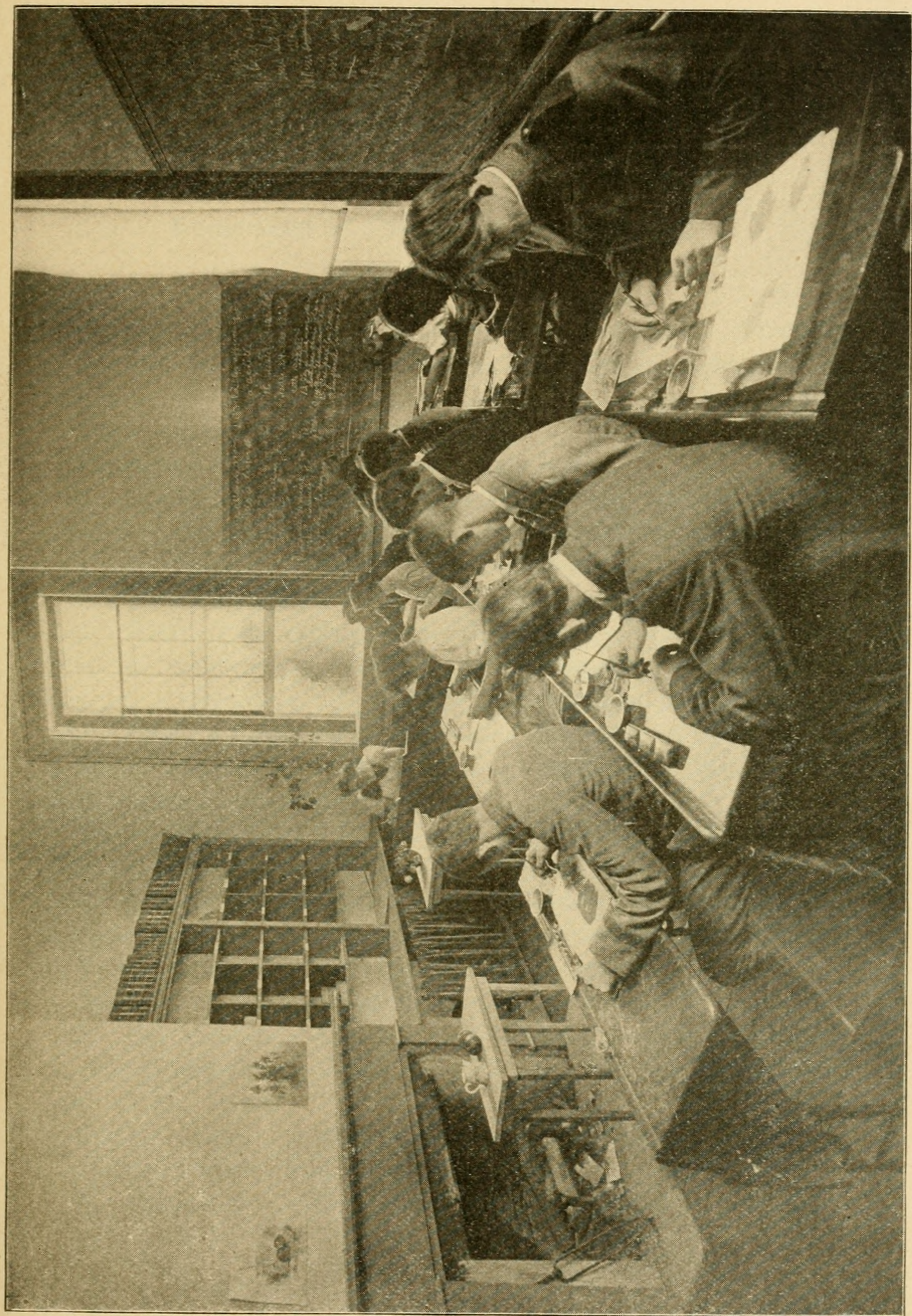
DRAWING

One, unit. A full year's work in drawing should include simple geometrical plane and solid figures, the simple pieces of machinery, with a fair knowledge of the rules of perspective and light and shade as applied in freehand sketching. The student should complete at least twenty drawings which display proficiency in the following points:

a.—Ability to sketch freehand from dictation with reasonable accuracy and with fairly correct steady and clean lines any simple geometrical figure or combination of figures, straight lines, squares and circles, polygons, spirals, and the like.

b.—Ability to sketch from objects with reasonable correctness and proportion, structure and form, geometrical models, simple vases, simple details of machinery or common objects such as ordinary household furniture and utensils.

c.—Ability to sketch from copy, enlarging or reducing its dimensions any simple object such as a globe valve, top, or any ordinary historical ornament as an acanthus leaf, iron scroll work, etc.



ART CLASS.

COLLEGIATE COURSES

Department of Philosophy and Education

By the President.

1. **PSYCHOLOGY FOR TEACHERS.**—The elementary principles of mental operations, observations, and development will be stressed.

TEXT.—Gordy's "New Psychology."

FRESHMAN CLASS.—Fall term. Two hours.

2. **CLASS MANAGEMENT.**—This course will attempt to give an idea of the principles and technique of class-room management.

TEXT.—Bagley's "Classroom Management."

FRESHMAN CLASS.—Spring term. Two hours.

3. **HISTORY OF EDUCATION.**—This course is intended to give: First an historical survey of the development of education; Second, a discussion of educational tendencies rather than of men; Third, a portrayal of the connection between education as a theory and actual work; Fourth, a suggestion of the relations with present educational work.

TEXT.—Monroe's "A Brief Course in the History of Education."

SOPHOMORE CLASS.—Fall term. Two hours.

4. **PHILOSOPHY OF EDUCATION.**—Education from a biological, a sociological, a physiological and a psychological standpoint.

TEXT.—Horn's "The Philosophy of Education."

SOPHOMORE CLASS.—Spring term. Two hours.

5. **PSYCHOLOGY.**—This course is intended to give the student a general knowledge of the essential facts and the fundamental laws of the mind.

TEXT.—James' "A Briefer Course in Psychology."

JUNIOR CLASS.—Fall term. Two hours.

6. **PHILOSOPHY.**—This course will give a brief view of philo-

sphic thought from its earliest existence to the present. Special attention will be given to the period of Greek philosophy. Lectures, discussions, and then work.

TEXTS.—Rogers' "A Student's History of Philosophy;" Bakewell's "Source book in Ancient Philosophy."

JUNIOR CLASS.—Spring term. Two hours.

7. ETHICS.—This course is intended to present both historically and critically the principal types of ethical theory; lectures, parallel readings, and individual investigations.

TEXT.—Thilly's "Introduction to Ethics."

SENIOR CLASS.—Entire year. Two hours.

Department of Physics, Chemistry and Geology.

B. P. GAILLARD, Professor.

The course pursued in these branches is designed to give the student such knowledge of scientific principles and such training in scientific methods as will be of most advantage to him.

1. General Inorganic Chemistry is taken up and completed through non-metals in the fall term. The work is continued in the spring term and completed by commencement.

FREEMAN CLASS. Five hours recitation, and five hours laboratory.

2. (a) QUALITATIVE ANALYSIS.—This course has its foundation in the previous course and aims to make the work a practical study, full of interest and utility.

SOPHOMORE CLASS, fall term. Nine hours laboratory, and one hour recitation.

(b) ORGANIC CHEMISTRY.—This study is taken up with special reference to such subjects as bear on Agriculture.

SOPHOMORE CLASS, spring term. Three hours recitation, two hours laboratory.

3. **Physics**.—Matter and Properties, Dynamics of Liquids and Gases and Heat are completed in the fall term. Sound, Light, and Electricity in the spring term.

JUNIOR CLASS. Three hours recitation, and two laboratory. Prerequisite, a pass in Sophomore mathematics.

4. **QUANTITATIVE ANALYSIS.**—Gravimetric Analysis, fall term, Volumetric Analysis and miscellaneous work, spring term.

JUNIOR CLASS. One hour recitation and nine hours laboratory.

5. **Geology.**—This includes class room work with practical study of the geology of the vicinity.

SENIOR CLASS, fall term. Five hours.

Students doing laboratory work are required to pay \$2.00 a term to cover cost of material used in their work.

Department of Mathematics and Astronomy.

JOSEPH W. BOYD, Professor of Pure Mathematics
and Astronomy.

J. C. BARNES, Professor of Applied Mathematics.

1. **HIGHER ALGEBRA.**—Quadratic Equations, Simultaneous Quadratics, Radical Equations, Surds, and Imaginaries; Ratio and Proportion; Arithmetical and Geometrical Progressions; Binomial Theorem, Logarithms; Interest and Annuities; Choice and Chance; Continued fractions, Variables and Limits, Series, Interpolation, Determinants; General Properties of Equations.

TEXT: Wentworth's "Higher Algebra."

FRESHMAN CLASS, fall term. Five hours.

2 (a) **SPHERICAL TRIGONOMETRY.**—The Right Triangle, the Oblique Triangle; Applications to Astronomy.

(b) **SURVEYING.**—Instruments and their uses; Land Surveying, Rectangular Surveying, Plotting, Plane Table Surveying, Triangulation.

(c) **LEVELLING.**—Levelling for Section; Topographical Levelling; Railroad Surveying.

TEXT: "GRANVILLE'S Plane and Spherical Trigonometry."

FRESHMAN CLASS, spring term. Five hours.

3. **ANALYTIC GEOMETRY.**—Loci and their equations. Rectilinear system of co-ordinates, polar co-ordinates; the parabola, the ellipse, the hyperbola; Loci of the second order, Higher Plane Curves. Solid Geometry.

TEXT: To be selected.

SOPHOMORE CLASS, fall term. Five hours.

4. (a) ANALYTIC GEOMETRY, completed.

(b) ALGEBRA.

(c) CALCULUS: Differentiation and integration.

SOPHOMORE Class, spring term. Five hours.

5. ADVANCED CALCULUS.—Quantities, Functions, Fundamental Principles, Differentiations, Limits, Analytic and Geometric Applications; Successive Differentiations. Text: "Nichols:"

JUNIOR CLASS, fall term. Five hours.

6. ADVANCED CALCULUS.—Integral Calculus Type Forms, Rational and Irrational Fractions, Trigonometric Integrals; Geometric and Mechanical Applications.

JUNIOR CLASS, spring term. Five hours.

7. ASTRONOMY.—Text, Youngs "Manual of Astronomy."

Senior Class, fall term. Five hours.

8. MECHANICS.—Composition and Resolution of Forces; Center of Gravity and Stability; Elementary Machines, Kinetics, Centrifugal Force, Work and Energy; Mechanics of Gases and Vapors; Hydraulic and Pneumatic Mechanics. Text, to be selected.

Senior Class, spring term. Five hours.

Department of English Language and Literature

GEORGE W. CAMP, Professor.

F. C. CAVENDER, Assistant Professor.

1. RHETORIC.—Exposition, argumentation, narration and description; study of model literature illustrating each topic; frequent short themes; longer themes at regular intervals; class debates; oral exercises in story telling, descriptions, expositions; readings and orations; study of prescribed literature; reviews.

LOGIC.—The principles of logic will be taught in connection with exposition and argumentation.

TEXTS: Baldwin's "A College Manual of Rhetoric;" Creighton's "Introductory Logic;" Macaulay's "Essays on Clive and Hastings;" Burke's "Conciliation;" Webster's "Reply to Hayne;" Baldwin's "Lodge's Rosalynde."

FRESHMAN CLASS, entire year. Five hours.

2. LITERARY CRITICISM—Art Form and Art Content in literature; personality in literature; a detailed study of the Letter, the Essay, Biography, History and the Oration, together with the study of representative authors under each topic; occasional themes involving the principles of criticism; specially prepared themes at the close of each term. Students are required to do systematic work in reading, keeping notes on all read.

Sophomore Class, fall term. Five hours.

3. LITERARY CRITICISM (Continued).—Fiction: the romance and the novel; Poetry: the epic, the drama, the lyric. Reading and essays required. (See fall term work).

TEXT: Sheran's "A Handbook of Literary Criticism." (Used both fall and spring terms).

Sophomore Class, Spring term. Five hours.

4 ANGLO-SAXON—Study of Anglo-Saxon Grammar; reading Anglo-Saxon; lectures on the development of the English language.

TEXTS: Smith's Old English Grammar.

Junior Class, fall term. Three hours.

5. ENGLISH LITERATURE.—Historical survey of the English language as a whole; detailed study of special periods; study of literature rather than about literature: "Chaucer's Prologue and Knight's Tale." "Malory's Morte d'Arthur;" Spenser's Faerie Queene;" theme work.

TEXT: Pancoast's "Introduction to English Literature (revised); Chaucer's Prologue and Knight's Tale; Malory's Morte d'Arthur, Spenser's Faerie Queene.

Junior Class, spring term. Three hours.

6. EPIC POETRY.—Survey of the Age of Milton in English literature; his place in the Renaissance; critical study of Milton as a master of epic poetry as illustrated in Paradise Lost; Milton compared with other writers of epic poetry, especially with Dante. The student will be expected to apply the principles of literary criticism in this work.

TEXTS: Himes "Milton's Paradise Lost;" Dante's Divine Comedy (Cary translation.)

REFERENCES: Winchester's Literary Criticism; Sheran's Handbook of Literary Criticism; Addison's Criticism of Paradise Lost; Dinsmore's Aids to the Study of Dante."

Senior Class, fall term. Two hours.

7. THE NOVEL.—Its development: origin and growth; distinctive stages in its evolution. Classes: romantic and realistic. Study of representative authors. Lectures on the novel as a reflector of society—sociological aspect. The student will be expected to do this work from a critical standpoint.

REFERENCES: Stoddard's "Evolution of the English Novel;" Goss's "The Development of the English Novel;" Sheran's Handbook of Literary Criticism; Winchester's Literary Criticism, Whitcomb's "The Study of the Novel;" Moulton's "Four Years of Novel Reading."

Senior Class, spring term. Two hours.

Department of Latin.

E. B. VICKERY, PROFESSOR.

The course of study prescribed in Latin is, in the main, the one adopted by the leading colleges of the country. This course has for its object not only the training of the students in the idioms and forms of expression of the Latin language, but also to furnish the student with the body of thought contained in the literature of the Latin authors. Sight reading and scanning will be emphasized.

As the fountain source of a large proportion of the words in our own tongue, the Latin language must always be studied. In addition to this the cultured man must also be familiar with the philosophy of life and the progress of civilization and literary culture developed by these ancient authors.

The ends aimed at in this department, therefore, are mental discipline, love of literature, the best ethical ideals, and the most approved form of literary expression.

Course of Study.

COURSE 1.—Entrance Requirements (See general entrance for Freshman Class.)

Cornelius Nepos (Lindsay) and Livy (Burton).

Latin grammar (Allen and Greenough).

Lewis Elementary Latin Dictionary.

Five hours per week. Required of Freshmen.

COURSE 2.—Horace, Odes and Epodes (Moore). Satires and Epistles (Greenough).

Grammar continued.

Five hours per week. Required of Sophomores.

COURSE 3.—De Amicitia of Cicero (Price).

Juvenal (Wright).

Three hours per week. Required of Juniors.

COURSE 4.—Germania of Tacitus.

Phormio of Terence (Laing).

Two hours per week. Required of Seniors.

Department of History and Political Economy

W. J. BRADLEY, PROFESSOR.

1.—HISTORY OF MODERN EUROPE.—Embracing the history of Europe from 800 A. D. to the present time. The doctrines and the struggles of the Papacy rather extensively treated. The dawn and development of national Consciousness with its present tendencies and implications receive the merited portion of study. One-half of the total amount of time consumed in this course is devoted to the Nineteenth Century.

Note-Book System, using Heath's "Outline of Medieval and Modern European History."

Text-book: West's "Modern History." Three hours a week. Fall and Spring Terms. Freshman Class.

2.—SOCIOLOGY.—Being a practical study of the nature, functions, organs, and development of society. Due attention to emotional stimuli to social activity. The individual and his relation to society as reflected especially in American polity.

Brief resume and statement of the more conspicuous social problems together with some tentative solutions for discussion. Term Thesis.

Text-book: Fairbank's "Introduction to Sociology." Three hours a week. Fall and Spring Terms. Sophomore Class.

3.—POLITICAL ECONOMY.—Brief review of economic history. A careful study of monetary problems, banking, tariff, taxation, monopolies, international trade, and especially the economic functions of government. Present economic status and issues and their importance in shaping the policies of political parties. Term Thesis.

Text-book: Bullock's "Introduction to the Study of Economics." Two hours a week. Fall and Spring Terms. Junior Class.

4.—POLITICAL SCIENCE.—An exposition of the most prominent theories as to the origin of the State, and a comparative study of the forms and functions of the principal political arrangements of Ancient and Modern times. Term Thesis.

Text-books: Wilson's "The State," Burgess's "Political Science and Comparative Constitutional Law." Three hours a week. Fall and Spring Terms. Senior Class.

DEPARTMENT OF GERMAN.

EDWARD STEINER, PROFESSOR.

The aim of the department is twofold; first to give the student general culture and training; second, to enable him to use the language in scientific research. As far as possible the language will be used in the class room. From time to time talks relative to the subjects read are given by the professor. Composition and writing from dictation are required from each class. Constant drill in pronunciation is given by daily practice in the lecture room. The study of the grammar is insisted upon, and this feature is further emphasized by blackboard work by the professor.

1. FIRST GERMAN.—Grammar, alphabet, pronunciation, ear cultivation, forms of articles, nouns, adjectives, pronouns and

verbs. Dictation, written composition. Translation, one hundred pages in class room, parallel, fifty pages.

TEXT-BOOKS: Bacons New German Course; Hewitt's Reader. Required of Freshman Class, entire year. Five hours weekly.

2. SECOND GERMAN.—Grammar, prefixes, adverbs, conjunctions, syntax of the cases. Written composition, oral rendering of English into German, and German into English. Dictation. Translation in class room, two hundred pages. Parallel, one hundred pages.

TEXT-BOOKS: Bacon's New German Course, Voss Essentials of German, Bacon's Conversational Reader.

Required of Sophomore Class, entire year. Five hours per week.

3. THIRD GERMAN.—Syntax of the moods and tenses, the infinitive and participles. Written and oral composition, conversation. Translation in class room, two hundred pages of scientific German. Parallel, one hundred pages of scientific German.

TEXT-BOOKS: Bacon's Grammar, Bacon's Conversational Reader, Voss' Essentials of German. Lambert's German Idioms.

Required of Junior Class, entire year. Three hours per week.

4. FOURTH GERMAN, consists of an outline of the History of German Literature with extensive readings from the authors mentioned.

Optional with the Senior Class, entire year. Three hours per week.

Departments of Art and French

MISS MERRITT, PROFESSOR.

"Art has been defined as the manner in which nature is used for the production of beauty. The material may be language, or the movement of the body, or sound, or life itself, as well as stone, or plaster, or paints, or ink and paper. In the mouldings of all these things Art may arise, so that there lives no human being, how poor soever, who may not beautify his life by art."

Freehand Drawing classes are open to all students. In them

the underlying principles of Art, proportion, perspective, and composition are stressed, as well as light and shade. First the simplest objects composed of straight lines are used for models, then curved surfaces are introduced, and after that more complex objects. The lessons are varied by sketching from still-life, from nature, and from life.

The lessons will be supplemented by discussions on the different aspects of Art and its relation to life, and the history of Art will be studied.

A special course is offered in charcoal, crayon, pastel, oils, water-colors and pen and ink to those who may desire it.

FRENCH

The object of this course is to enable the student to avail himself of the large number of scientific treatises that are published in the French language and to read with appreciation the masterpieces of French literature; to acquire the ability to speak the language, and to gain a knowledge of its grammar. In order to accomplish this an almost equal time is given to reading, conversation, and grammar. Especial attention is given to the study of the idioms of the language.

COURSE OF STUDY.

1. Introductory Course.—Fraser and Squair's "French Grammar;" reading of short stories; conversational exercises at every recitation.

Required of Freshman Class, entire year. Five hours.

2. Composition and Conversation—Sanderson's "Through France and the French Syntax;" Halevy's "L'Abbe Constantin, Labiche-Martin's "Poudre aux Yeux;" Sand's "La Mare au Diable;" and selected readings; original compositions in French. Recitations are, as far as practicable, conducted in French.

Required of Sophomore Class, entire year. Five hours.

3. Les Miserables.—Review of French Grammar; study of Victor Hugo's "Les Miserables;" the French and English idioms compared; original compositions in French; conversational exer-

cises; study of the classical French dramatists and the writers of the Romantic school, and selections from them. This year will be devoted principally to a literary study of the masterpieces of French literature with special attention to the peculiar excellence of the French language as a means of literary expression.

Required of Junior Class, entire year. Three hours.

4. FRENCH LITERATURE.—“Histoire de la Litterature Fran-
caise;” representative selections from eighteenth century prose; Descartes, Pascal, La Bruyere; selections from Moliere, Racine, Corneille; conversation; business and social correspondence, class reading of the 19th century writers.

Optional with the Senior Class, entire year. Two hours.

**SCHEDULE OF STUDIES LEADING TO A. B., B. S.
AND B. Ph. DEGREES.**

Note: Numbers in parentheses refer to description of courses; those on the right hand margin indicate the number of hours re-
quired per week.

A. B. Degree.

FRESHMAN CLASS.		JUNIOR CLASS.	
English (1)-----	5	(15 hours per week re- quired.)	Required Studies.
Mathematics (1) and (2)	5		
Latin (1)-----	5	English (4) and (5)-----	3
French (1) or German--	5		
History (1)-----	3	Latin (3)-----	3
—		Optional Studies.	
	23	(9 hours required.)	
SOPHOMORE CLASS.		Mathematics (5) and (6)	5
English (2) and (3)-----	5	Science (3) and (4)-----	5
History (2)-----	3	Philosophy (5) and (6)--	2
Latin (2)-----	5	History (3)-----	2
Mathematics (3) and (4)	5	French (3) or German--	3
French (2) or German --	5	—	
—			23
	23		

SENIOR CLASS.

(15 hours per week required.)

Required Studies

English (6) and (7)-----	2
Latin (4)-----	2

Optional Studies. (11 hours required.)

Mathematics (7) and (8)	5
Science (5)-----	5
Philosophy (7)-----	2
French (4) or German--	2
History (4)-----	3

B. S. Degree.

FRESHMAN CLASS.

English (1)-----	5
History (1)-----	3
Latin (1) or French (1)	
or German-----	5
Mathematics (1) and (2)	5
Science (1)-----	5
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	25

English (4) and (5)-----	3
Science (3) and (4)-----	5
Mathematics (5) and (6)	5

Optional Studies.

History (3)-----	2
Philosophy (5) and (6)--	2
Latin (3)-----	3
French (3) or German--	3

SOPHOMORE CLASS.

English (2) and (3)-----	5
History (2)-----	3
Latin (2) or French (2)	
or German-----	5
Mathematics (3) and (4)	5
Science (2)-----	5
—	
	23

SENIOR CLASS.

Required Studies.

(15 hours per week required.)

English (6) and (7)-----	2
Science (5)-----	5
Mathematics (7) and (8)	5

Optional Studies.

History (4)-----	3
Philosophy (7)-----	2
Latin (4) or French (4)	
or German-----	2

JUNIOR CLASS.

(15 hours per week required.)

(Required Studies.)

B. Ph. Degree.

FRESHMAN CLASS.

English (1)	5
Mathematics (1) and (2)	5
Latin (1)	5
History (1)	5
Education (1) and (2) ..	2

SOPHOMORE CLASS.

English (2) and (3)	5
History (2)	3
Latin (2)	
Mathematics (3) and (4)	5
Education (3) and (4) ..	2

JUNIOR CLASS.

Required Studies. (15 hours.)

English (4) and (5)	3
History (3)	2
Philosophy (5) and (6) ..	2

Optional Studies.

Mathematics (5) and (6)	5
Science (3) and (4)	5
Latin (3)	3
Drawing, freehand	3

SENIOR CLASS.

(15 hours per week required.)

Required Studies.

English (6) and (7)	2
Philosophy (5) and (6) ..	2
History (4)	3

Optional Studies.

(7 hours required.)

Science (5)	5
Mathematics (7) and (8)	5
Latin (4)	2

Department of Domestic Art and Physical Culture.

MISS GLADYS MCGILL, Professor.

DOMESTIC SCIENCE AND ART.

The course in Domestic Science is intended to make the students familiar with the best and most economical methods of home-making and housekeeping. The common facts of science are correlated in their bearing upon household matters. In fact every effort is made to give the young woman a sensible course of instruction in plain every-day cooking, in the simple chemistry of foods, in practical housekeeping, in sanitary arrangements of the home, and in sewing and dressmaking.

Two rooms are set apart and furnished for this department. The course is optional. A small fee to cover actual expenses in cooking is required of each student, and those taking sewing are expected to furnish their materials.

Cooking three hours a week (two periods of laboratory work and one lecture.) Sewing two periods a week.

PHYSICAL CULTURE.

All young ladies entering the school are required to take the course in Physical Education.

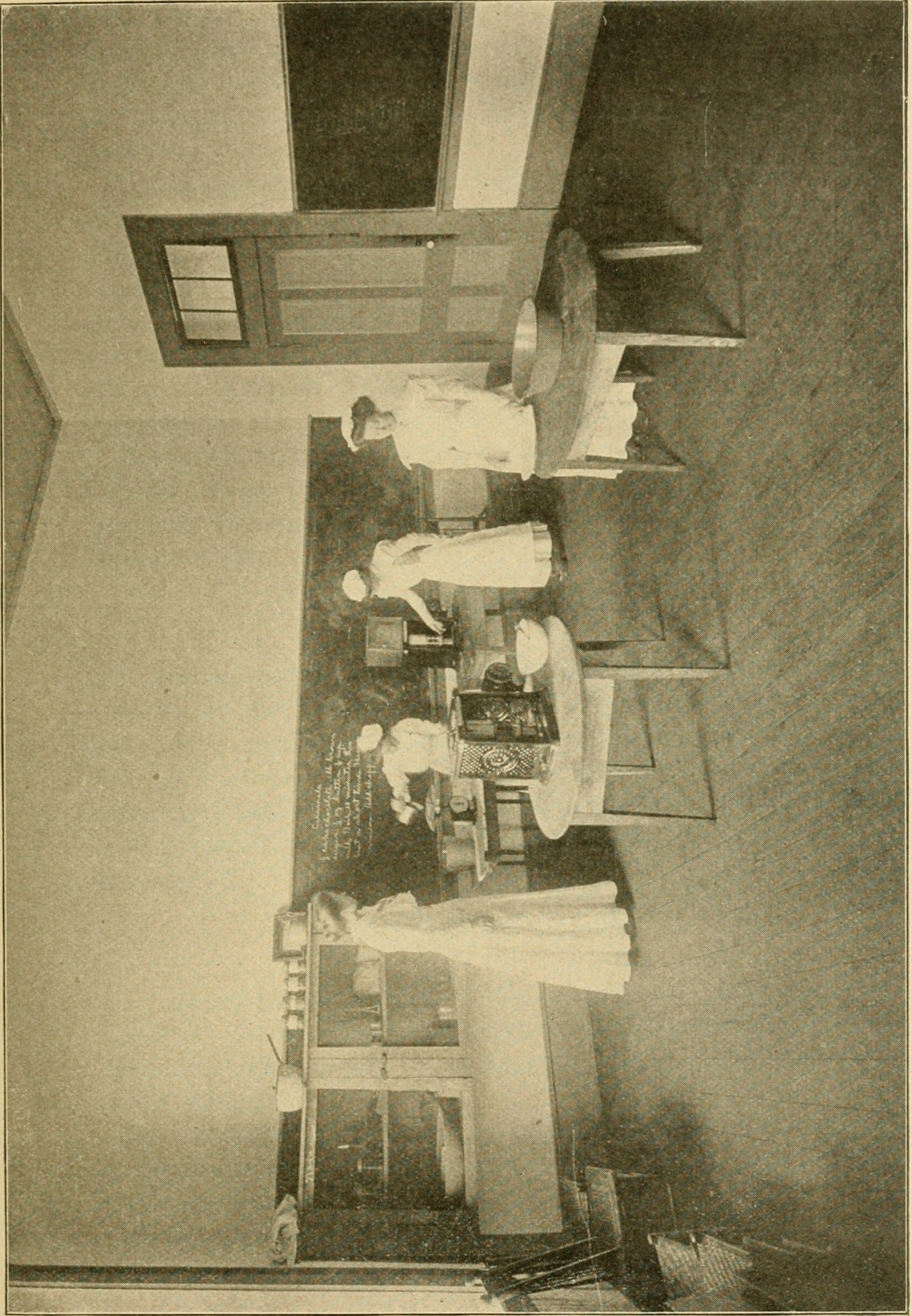
The course consists of calisthenics, marching, club and dumb bell work, Swedish exercises and games. A gymnasium suit is required consisting of regulation bloomers and white blouse and gymnasium or running shoes.

Class meets in afternoons twice a week.

Department of Business Science.

CARL SHULTZ, B. B. S., Professor.

In this age of rapid commercial development and keen competition, it behooves every young person to become educated; and if possible to get some business training. This is true not only



COOKING CLASS.

of the banker, the merchant, the lawyer, but of the farmer, the mechanic, and the laborer. No one can shirk his business relations with others, therefore, it is desirable that he obtain some of this training in the schoolroom, and thus save himself some high-priced experience.

The modern business house is like a perfectly constructed machine; every employee and employer fitting in, and working with one end in view. The managers, secretaries, bookkeepers, stenographers, clerks, workmen, etc., are simply representatives of the different pieces of the nicely adjusted machine. If any one fails to do his duty, the efficiency of the machine is hindered and everything is thrown out of gear. Consequently, good bookkeepers and stenographers are always in demand.

The fact that our commercial students receive so much academic training, makes our course an exceptionally strong one; producing that roundness of development that is so essential to one's success in life.

BOOKKEEPING.

It matters not if one never expects to keep books, he will find a course in bookkeeping beneficial to him in almost every vocation; for it is absolutely necessary that he keep in close touch with his business, but if no record, of that business is kept, this will be impossible. If one gets nothing else, the training in neatness, persistency, and accuracy is well worth the cost and time expended.

COURSE OF STUDY.

1. **BOOKKEEPING.**—Single Entry is presented. Changing from Single to Double Entry. Shipping and Commission, Jobbing, Installment Houses and State Agencies, Joint Stock Companies, and Manufacturing.

The students are required to become perfectly familiar with all the books used, and to be able to take a blank page and rule it for any book needed.

To be admitted to this class, one must be familiar with Journal,

Cash Book, Bill Book, and the Ledger, knowing how to close ledger accounts, and to make balance sheets.

TEXT-Book: Williams and Rogers' "Bookkeeping and Business Practice."

SUPPLEMENTAL WORK.

Required of the Freshman Class, first and second terms. Five hours.

2. BANKING.—The student in this class is given a thorough course in banking; he is required to become so familiar with the different books of the bank that he can take a blank page and rule it properly for any book used in a modern banking establishment. Besides this, he will be given actual work in buying and selling, shipping, discounting, collecting depositing, issuing and receiving all papers incident to the many transactions made, as well as making the proper entries in his different private books, and the different books of the bank and offices. Each student represents a business house and serves his turn in the bank and different offices. The students will be required to organize a bank and to become familiar with the work of the Clearing House.

TEXT-BOOK.—Williams and Rogers' "Modern Illustrative Banking."

TEXT-BOOK.—Saddler and Romes Banking.

Required of the Sophomore Class, first and second terms. Five hours.

3. ACCOUNTING.—This is not intended to afford practice in bookkeeping, but to enable students to grasp the significance of accounts. Since, however, an understanding of bookkeeping principles is essential for intelligent construction and interpretation of accounts, an examination in certain types of bookkeeping, with abundant practice in their use, will be an important part of the work. However the chief work of the course consists in the study of methods for determining profit, loss, and valuation. The object of this course is to make accountants.

Junior Class, first term. Five hours.

4. COMMERCIAL LAW.—This is designed to develop the princi-



BOOKKEEPING.

ples of the law of contracts, emphasis being laid upon their practical application in many varieties of business dealings. It considers in the first place the formation of obligations, simple contracts, and contracts under seal; and the performance and the discharge of such obligations. The latter part of the course deals with arrangements for the transfer of property, deeds of real estate, and especially contracts of the sales of personal property, including such topics as bills of lading, stoppage in transit, warranties of quality, conditional sales, Factors' Acts, and the Statutes of Frauds.

Junior Class, second term. Five hours.

TYPEWRITING.

The typewriter is one of the outgrowths of our great business developments and because of its simplicity of construction and ease of operation, many deem instruction in typewriting needless. This feeling has brought disappointment and failure to many who have chosen typewriting as a vocation. While it is possible for any one to write on the typewriter without any special instruction, it is impossible for him to attain the speed, accuracy, evenness of touch, and ease of operation of the trained operator.

The Department is supplied with the best Remington machines, and from time to time the supply is being increased as the number of students demand.

COURSE OF INSTRUCTION.

1. TYPEWRITING.—To be admitted to the Freshman Class in typewriting, one must be able to take 15 words a minute for three minutes by the touch system. To make a pass in this class, one will be required to write 25 words a minute for three minutes, to know the parts of the machine and how to care for it properly.

TEXT-BOOK: "Rational Typewriting Instructor."

Required of the Freshman Class, first and second terms. Five hours.

2. TYPEWRITING.—This class will be required to write 100

words in three minutes to make the passing mark. Besides this, the class will have exercises in letter-press copying, manifolding, mimeographing, and actual office practice.

TEXT-BOOK: "Rational Typewriting Instructor."

Required of the Sophomore Class, first and second terms. Five hours.

3. TYPEWRITING.—This class will continue the work of class (2), becoming more familiar with the general use of the machine, and will be required to write 40 words a minute for three minutes to pass.

TEXT-BOOK: "Rational Typewriting Instructor."

Junior Class, first and second terms. Five hours.

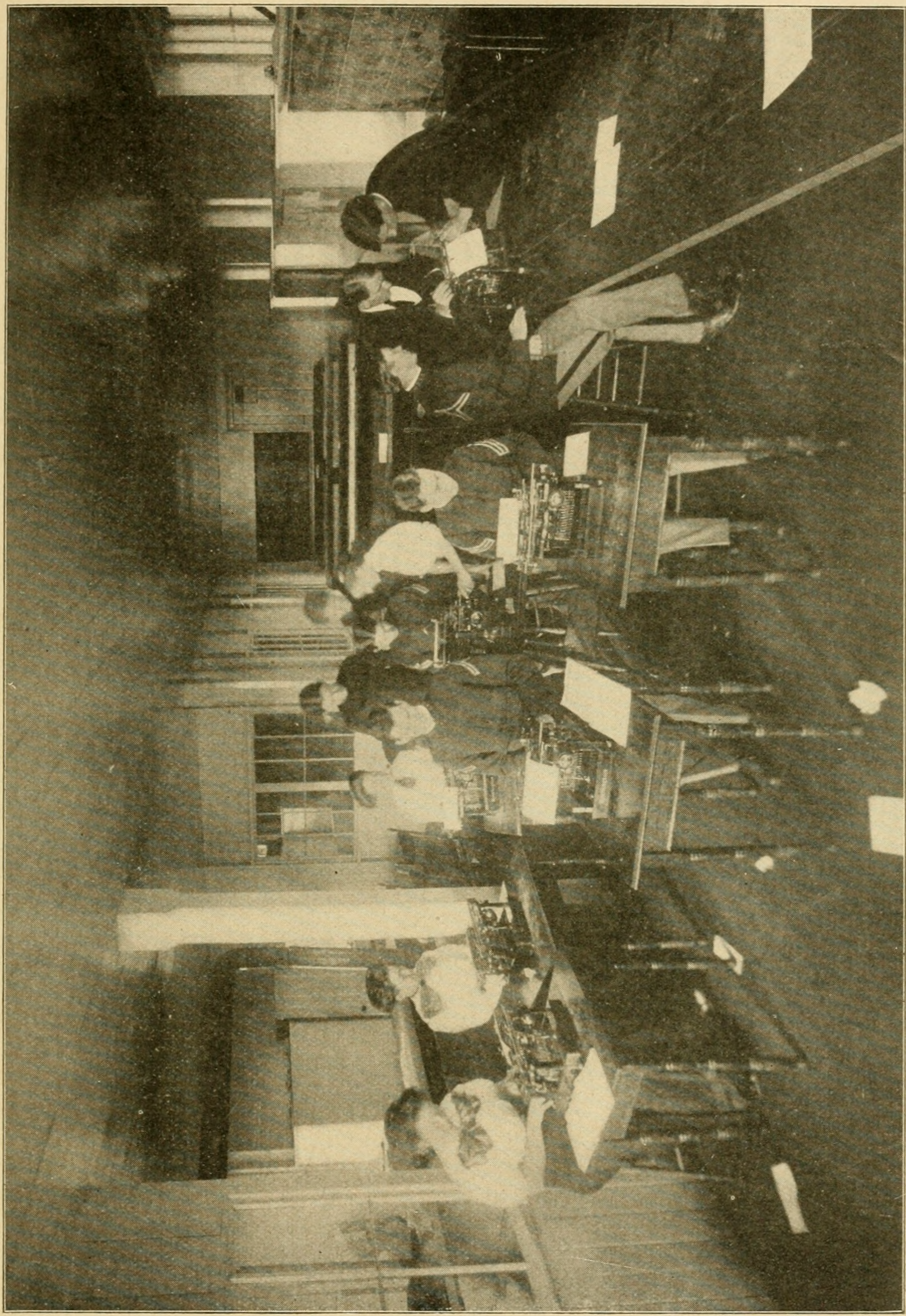
The aim of the entire course in typewriting is not to have the student ready to learn to operate the machine, but to make a good operator of him while he is in school, so that, when he leaves college, he will have lost all of that awkwardness so common to certain classes of business students, and can operate the machine with the elasticity of a trained operator.

SHORTHAND.

Shorthand is growing in use and popularity as is shown by the large number of schools that have made it a part of their course in the past few years. This is due to the fact that the demand for amanuenses is increasing and our educators are recognizing the importance of shorthand training of students in a physical way aside from the direct use of the art. No other study furnishes as many chances for promotions as phonography, for it puts one in close touch with the business wherever employed, thereby placing him in direct line for promotion when a vacancy occurs.

COURSE OF INSTRUCTION.

1. SHORTHAND.—The work consists in reading and writing all the shorthand exercises given in the text with special reference to the fundamental principles of shorthand. Word and sentence dictation. The student will be urged throughout the course to



TYPEWRITING.

make the shorthand characters legible, for without legibility the writing is worthless.

Text-book: Graham's "Standard Phonography."

Required of the Freshman Class, first and second terms. Five hours.

2. SHORTHAND.—Review of text-book and word signs. Letter dictation from different kinds of business. This class will be required to write at least 80 words a minute for three minutes, to pass. When one has completed this course he is supposed to be able to take the letters of any ordinary business.

Text-books: Graham's "Standard Phonography." "Universal Dictation."

Required of the Sophomore Class, first and second terms. Five hours.

3. SHORTHAND.—This course is a continuation of course (2); the student is required to reach a speed of at least 100 words a minute for three minutes. The students will be given exercise in taking lectures, speeches of various kinds, and evidence in courts.

Text-book: Graham's "Universal Dictation Course."

Graham's First and second Readers.

Required of the Junior Class, first and second terms. Five Hours.

Degrees.

The Degree of Bachelor of Business Science will be conferred on those students who complete the course as outlined in this schedule.

A certificate of Proficiency will be awarded those students who complete the course through the Sophomore Class.

Schedule of Studies Leading to the B. B. S. Degree. Freshman Class.

English (1)	5
History (1)	5
Mathematics (1) and (2)	5

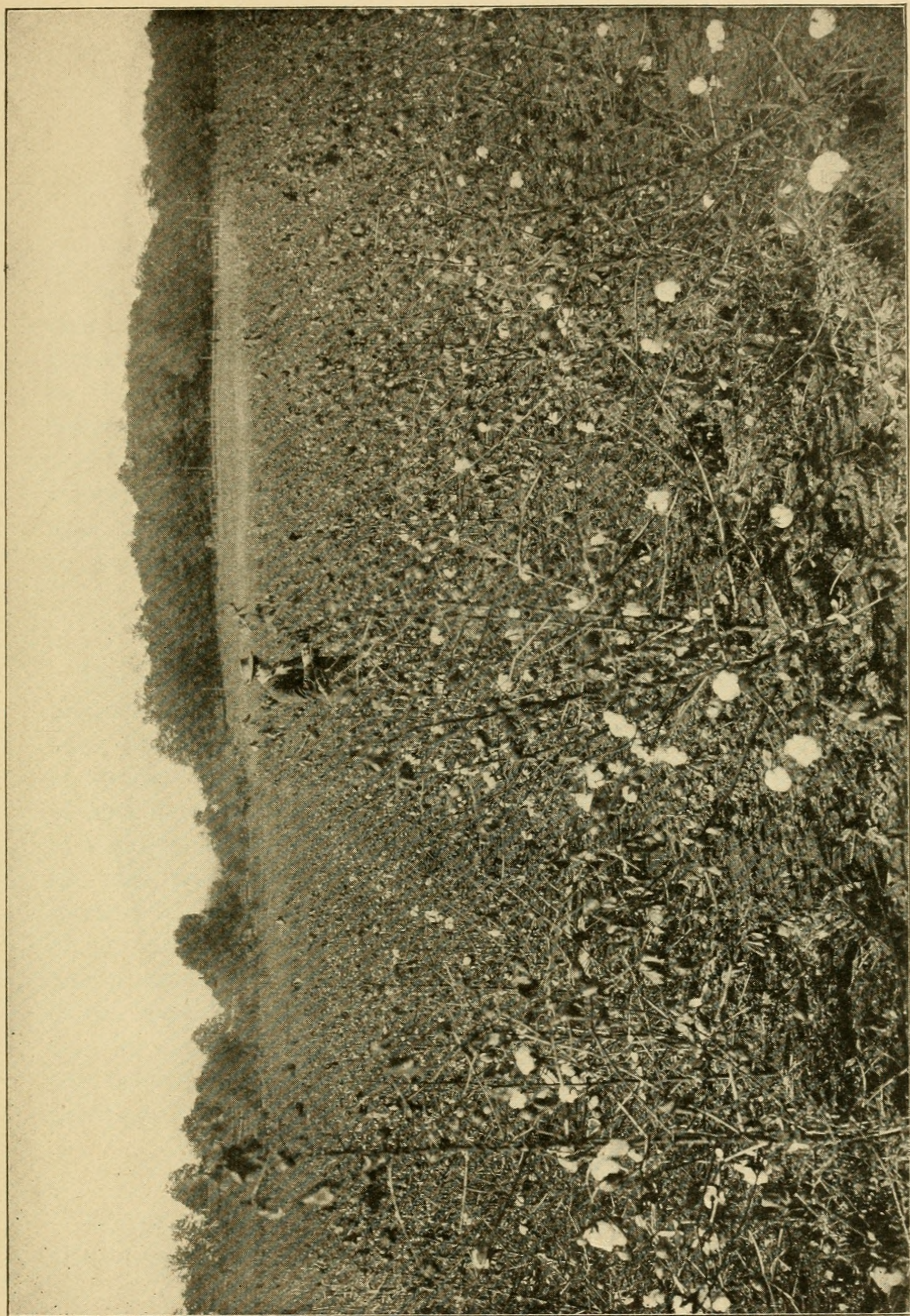
Bkookeeping (1)	5
Typewriting (1)	5
Shorthand (1)	5

Sophomore Class.

English (2) and (3)	5
Mathematics (3) and (4)	5
Banking (2)	5
Typewriting (2)	5
Shorthand (2)	5

Junior Class.

English (4) and (5)	3
Mathematics. Fall term (Astron.)	5
Shorthand (3)	5
Accounting (3) (Fall term)	5
Commercial Law (4) (Spring term)	5
Typewriting (3)	5
History (3)	2



COTTON BREEDING.

Department of Agriculture.

C. F. NIVEN, Director.

HENLEY WIMPEY, SUPT. FARM.

Aim and Object.

The Dept. of Agriculture in the N. G. A. College stands for thorough training in practical science as relates to the various phases of Agriculture. Its aim is to send out young men fitted by their training to take a leading part in the development of Agricultural resources of the state; to become scientific farmers and horticulturists, prepared to make two blades of grass grow where one grew before; men fitted not only to meet demands made upon them, but to create such demands by pointing out the way to progress and development.

THE FIELD OF THE SCHOOL.

The field of Science of Agriculture is large. The progress of modern science has created new professions, and changed the old ones, until they are beyond recognition. The humble pursuits of the past have been dignified by the concentration of the mind of man upon them, until, today, they rank with the professions of a generation ago. Our country offers today, unlimited demand for men and women who have made themselves professional workers in the various phases of Agriculture. The development of agriculture has made the possibilities of the soil so profitable and pleasant that a great portion of the most intelligent people of the land are looking toward scientific agriculture as a profession for themselves and their children. The college of Agriculture believes in the education that fits for life; that trains the head, heart and hand.

POSSIBILITIES IN AGRICULTURE.

The present day learning has created several new professions. One of them is agriculture. Science has been applied to agricul-

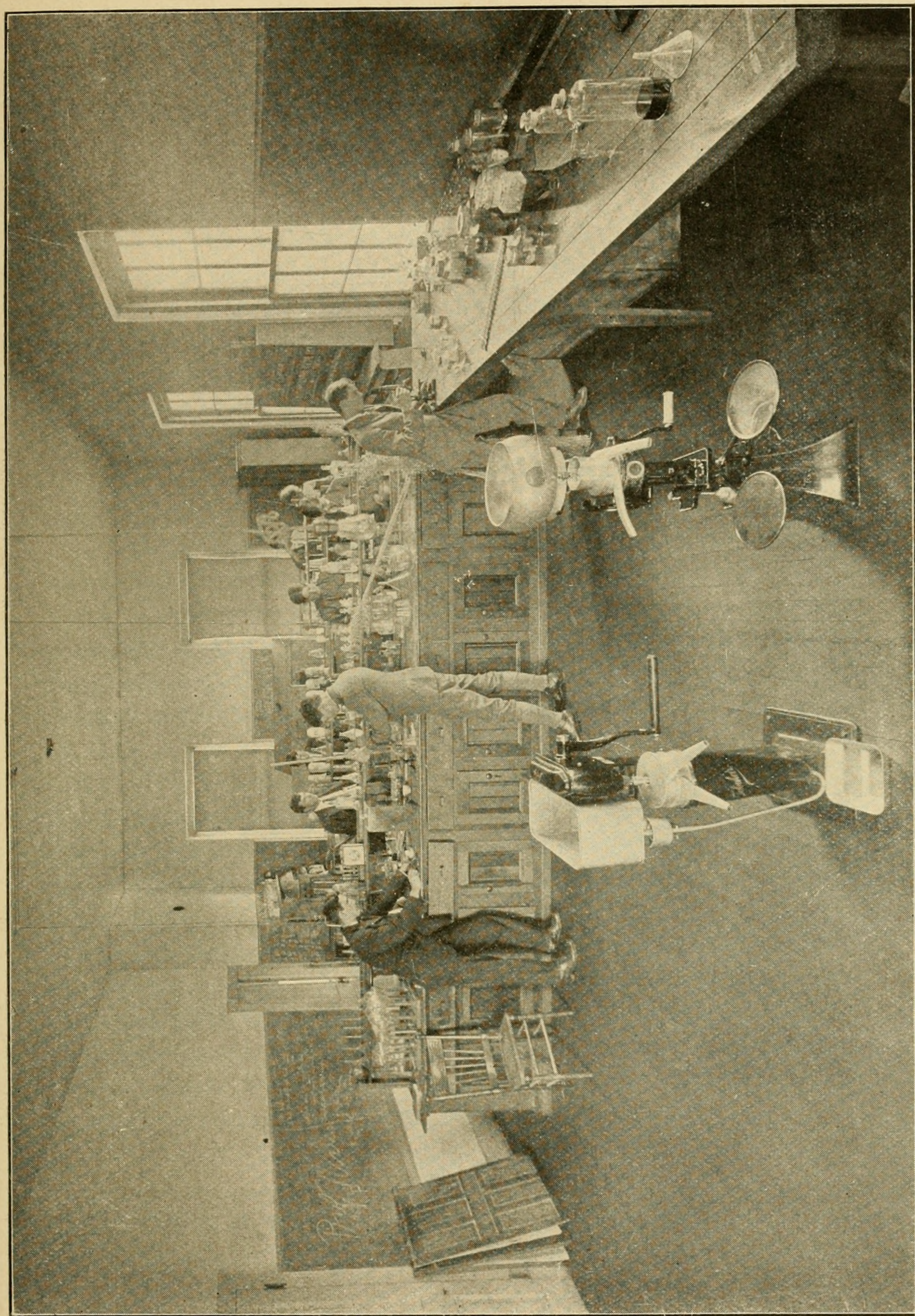
ture and its various branches until soils and plants and animals can be made to do the will of the trained farmer. Agricultural education is sweeping the entire country. Congress and the State Legislature are helping it on. The development of agriculture will make it possible for every man and woman who follows farming to make a handsome income, and at the same time live a helpful and happy life. The farm used to boss the man, but now the man bosses the farm if he has acquired sufficient knowledge. The only serious drawback to the onward march of modern agriculture is the lack of trained workers. The government is calling for more agricultural experts than the country can produce. Every state demands teachers for its high schools. The District Agricultural Schools want teachers of agriculture. The Agricultural colleges are clamoring for more help. The Philippines are taking a great number of agricultural men. Foreign countries are sending for them. There is room in Georgia alone for scores of young men at first class salaries to act in responsible positions. Agriculture is not a crowded profession and the demands for agricultural experts far exceeds the graduates in agriculture.

LABORATORIES AND EQUIPMENTS.

The school of Agriculture is well equipped with laboratories and class rooms. The biological laboratories are in Bostwick Hall and contain equipments for satisfactory work in botany and zoology, instruments such as dissecting microscopes, compound microscopes, students dissecting sets and microtomes are at the disposal of the students.

The soil physics laboratories and dark room for photographic and vegetable physiology work are located on the second floor of Bostwick Hall. The soil laboratory is equipped with all modern appliances for the mechanical and chemical analysis of soils. The room is fitted up with soil bins, electric motor, shaker, centrifuge and other necessary apparatus.

The dairy laboratory is also located on the second floor of Bostwick Hall. It contains two modern Cream Separators and



AGRICULTURAL LABORATORY.

one eight bottle Babcock Tester. Besides these machines the laboratory contains all necessary appliances for the study of milk and cream under different conditions.

EXPERIMENTAL FARM.

Adjoining the college campus is a thirty-acre experimental farm under a high state of cultivation. The farm is divided into plats and a great variety of seed are grown for experimental purposes. The results are published for the benefit of the farmers.

Ample room is provided for the college herd of live stock which is used in connection with the study of animal husbandry.

DEGREES AND CERTIFICATES.

In order to meet the needs of all young men who desire instruction in agriculture three distinct courses are given.

(a) A four-year course which leads to the degree of Bachelor of Science in Agriculture. This course is designed to give a training which is thoroughly practical as well as scientific. The greater portion of the work in agriculture is done in the last two years of this course.

(b) The two-year course is similar to the first two years of the four-year course except that in the second year additional work in agriculture and horticulture is substituted for English and mathematics. Those who complete this work will be given a certificate.

(c) To meet the needs of men of mature years, who are busy on the farm the greater portion of the year, and for the benefit of young men who desire to become better farmers and who feel that they cannot take one of the regular courses in agriculture, a short course has been arranged beginning the first Monday in January and closing the second Friday in March.

LIBRARY.

The college of agriculture has a well equipped library in which are kept all government bulletins and publications, reference

books and the leading agricultural magazines and papers of the U. S.

It is believed that the contact with the books and magazines found in the library is worth a great deal and arouses a desire to know more than books contain. Agricultural students are required to do work in both agricultural library and the college library.

OUTLINE OF INSTRUCTION.

AGRONOMY.

AGRONOMY in its strictest sense, includes four general outlines of studies: Soils, crops, farm mechanics, and farm management. Agriculture No. 3 takes up the elementary study of soil and crops, and serves as an introduction to the several branches of Agriculture, Animal Husbandry, and Dairying.

It is proposed to make agricultural students thoroughly practical. Agricultural success depends upon science; and to understand the principles of Agriculture requires a knowledge of many sciences, Physics, Botany, Chemistry, Biology and Mathematics.

1-2 AGRICULTURE.—An elementary study of the soil—its formation, texture, plant food, moisture, tillage and fertility; the plant—its relation to the soil and climate, its propagation, growth and cultivation; the kinds of crops and their culture; the animal—its life, feeding, breeding, and management.

Freshman Class, first term.

3 SOILS.—A study of soil formation and mechanical composition including a special study of the physical problems of the soil as regards texture, tillage, movements of soil water, soil-moisture, conservation, aeration of the soil, draining and warming the soil.

Laboratory work will consist largely in the demonstration and application of the principles of soil physics taught in the classroom both by work in the laboratory and in the field. The students will be given practice work in determining soil moisture, in cultivation methods and in mechanical analysis of soils.

Sophomore Class, first and second term.

4 **FIELD CROPS.**—This course includes a study of the following Standard crops as to the origin, development, and special adaption to soil and climate; investigation of new crops.

Sophomore Class, second term.

5 **GRASS AND FORAGE CROPS.**—This course treats of the different grasses and other forage crops in particular. See field crops.

Junior Class, first term.

6 **FARM MECHANICS.**—Section of the farm as to location, soil, climate, etc.; different systems of farming; field and crop management and the keeping of farm accounts.

Junior Class, first term.

7 **FARM MECHANICS.**—This special subject will include farm machinery, its invention, history and development; a study of the principles of construction and operation with comparison with the different kinds and classes, according to their adaption for special conditions and uses. The latter part of the term all the time will be devoted to practical and theoretical instruction in terracing, ditching and drainage work.

Junior Class, second term.

DAIRY HUSBANDRY.

The purpose of this course is to give the student such knowledge and skill as will enable him to return to the farm and select, breed and feed the best dairy animals that is possible for him to obtain or if he has no farm of his own, opportunities are open for young men, after getting some experiences, to work into farm managers. Machinery is fast taking the place of hand labor, and it is therefore essential to become acquainted with the different appliances and gain an intelligent conception of the principles of mechanics.

1-2 **DAIRYING.**—Breeding, feeding, recording and judging dairy cattle; general management of dairy herds. Instructions are given in the conditions influencing the quantity and the quality of milk; its secretion, nature and composition; the methods of handling milk for butter and cheese making.

Laboratory work consists in testing milk, cream, skim milk,

buttermilk and whey; butter and cheese for fat purposes and methods; the detection of adulteration; testing the accuracy of glassware; Babcock testers and Cream Separators; practice in separation, pastuerizing, refining and churning cream.

Sophomore Class, all year.

ANIMAL HUSBANDRY.

Successful agriculture depends very largely upon the quality and class of livestock kept on the farm. As the price of farm lands increases, the value of farm crops also increases and it becomes necessary to produce a better class of animals to consume many of the farm crops and convert them into marketable products. Realizing this, the work has been planned to emphasize this fact and to encourage young men to the breeding and improvement of the various classes of domestic animals. The work has been planned with a view of giving a thorough training along the lines of stock judging and selection, stock breeding, feeding, general care and management.

1-2 BREEDS OF LIVESTOCK.—Four hours a week through the two terms, are given to the study of the breeds of horses, cattle sheep and swine. Each breed is taken up separately and studied from its origin. The methods used in establishing and improving the breeds, and the environments under which they are reared, their importation and popularity in the U. S. are each given due attention, with the idea of making the student familiar with each of the leading breeds of livestock in the country.

Sophomore Class, first and second terms.

3-4 PRINCIPLES OF BREEDING.—This course includes a study of the laws of heredity, variation, atavism, selection, etc.; methods and results of crossing, inbreeding, linebreeding, etc. The methods employed by the leading improvers of livestock are studied in connection with the application to these laws, and the student is shown how to maintain and improve his own flocks and herds by a knowledge of the fundamental principles of breeding.

Junior Class, first and second term.

5 STOCK JUDGING AND HANDLING.—The animals are brought before the student for their inspection and criticism and a score card is used until the student is familiar with the breed, characteristics and requirements. Practical work in handling livestock such as throwing animals, administering medicines, trimming hoofs and dehorning.

Senior Class, first term.

6 FEEDS AND FEEDING.—The practical feeding of the various classes of the domestic animals for the most profitable results is given in this course. The student is shown how to apply his knowledge of feeding standards and tables in the digestive nutrients in feeding—stuffs to actual feed-lot conditions; the most economical combinations of feeds for maintenance, the production of milk and the growing and fattening of the various classes of animals for the market. Special attention is given to the conditions prevailing over our own state. The results of experimental feeding by experimental stations are freely drawn upon in this subject. This course presupposes a year in chemistry.

Senior Class, second term.

BOTANY.

It is well recognized that Botany is one of the most important of the sciences upon which the practice of agriculture is based, for the reason that Botany deals with plant life, basis of agriculture.

1 ELEMENTARY BOTANY.—This course covers the elements of morphology and physiology. All of the great groups of plants are discussed in the order of their evolutionary development. Especial attention is given to the changes in structure which appear in response to the changes of environment. Emphasis is laid upon the plasticity and adaptiveness of the plant organism. By grasping this fundamental conception at the outset, the facts of plant life, practically studied in horticulture and agriculture become more comprehensible and insignificant. A general study of the classification of the plant kingdom, sufficient to enable the student to understand the broad outlines and the relationship of

the reliances secured in this course, by coming in close contact with the plants as living organisms in their natural habits, enables him to become acquainted with the factors that regulate their life and activity.

Laboratory work and trips into the Blue Ridge Mountains form part of the practical work.

Freshman Class, entire year.

HORTICULTURE.

Students are given instruction and practice as will enable them to become acquainted with the general principles of the plant culture and the practical application of those principles. The work is planned to give such knowledge of horticulture as will best help to increase the capacity of the students for the enjoyment of out-door life and work with plants and to enable them to increase the comforts, beauty and profits of life on the farm.

1. HORTICULTURE.—This work presents the principles of the art introducing the facts underlying the methods of general practice in nursery, orchard and garden work. The planning and planting of groves, orchards and gardens, with notes as to species and varieties adapted to various conditions.

Laboratory work consists in practice in nursery, garden and orchard work, including setting, grafting and cutting, spring pruning, construction and care of hot-beds and cold frames, testing and planting seeds, preparation of garden soils, use of garden tools, making and application of a spray mixtures and the use of spray machinery.

Junior class, first term.

2. VEGETABLE GARDENING.—The work of this year is devoted to a study of methods of field operations, including use of fertilizer, seed selection, means of securing sanitary conditions and a brief study of varieties. Vegetables gardening is supplemented with lectures on small fruits, marketing and adaption of principles of location conditions.

Junior Class, second term.

3. LANDSCAPE WORK.—It is the wish of the college to promote

the work of landscape gardening in every possible way. The main object of the course is to give the general student understanding of the fundamental principles of design of good taste as applied to gardening. The principles of this art studied in relation to their application to the planting, planning of home-grounds, walks, and drives, streets, parks and cemeteries. The various trees, shrubs, annuals, perennials, herbaceous plants for securing desired effects are taken up in detail, with special reference to their use under different climates and soil conditions. Gardens of hardy and tender plants are being continually extended. Actual work in practical landscape gardening, laying drives and walks, planning and planting various areas, is constantly in progress on the college campus.

Junior Class, second term.

4. PLANT BREEDING.—This includes lectures on the methods of improving plants by crossing and selection. This will also consist of practical work in the field, cross pollinating of plants and making selections from pots.

Senior Class. Second term.

ZOOLOGY.

1. ZOOLOGY.—This course is an introduction to the study of animals—their structure, functions, habits, origin, relationship and classification. The student is first introduced to the simplest forms of animals in which structure and functions are expressed in their simplest terms. From the consideration of these, he passes in a natural manner to the study of higher and more complex forms, thus obtaining a knowledge of the gradual differentiation of structure and correlative specialization of functions so clearly illustrated by the study of types. Special attention is paid to animal ecology—e. g.—the relation of animals to their environment, effect of climate, soil, etc., parasitism, commercialism, natural and artificial selection; the interdependence of species, and the caution which must be observed in interference with these natural relations.

Freshman, First term.

BACTERIOLOGY.

1. **BACTERIOLOGY.**—Instruction in bacteriology is given by means of lectures, text-book work, recitations and laboratory exercises. The object of this course of study is to acquaint the student with the various organisms found in the air, water, soil, milk, and the body, and their relation to such processes, as decomposition, fermentation, digestion, and production of disease. The toxic substances resulting from the growth of organisms are considered, as well as the antitoxins used to counteract their action.

Senior Class. First term.

SHOP WORK.

1. **FORGING.**—This work includes exercises in bending, twisting, shaping welding iron and making tools, etc. Followed by work in steel, such as tool making, tempering, welding, etc. Required of all agricultural students.

Junior Class. All year.

ENTOMOLOGY.

This work includes a study of the most common insects affecting fruit trees and farm plants. Their history, habits and methods of eradicating them.

Senior Class.

PLANT PATHOLOGY.

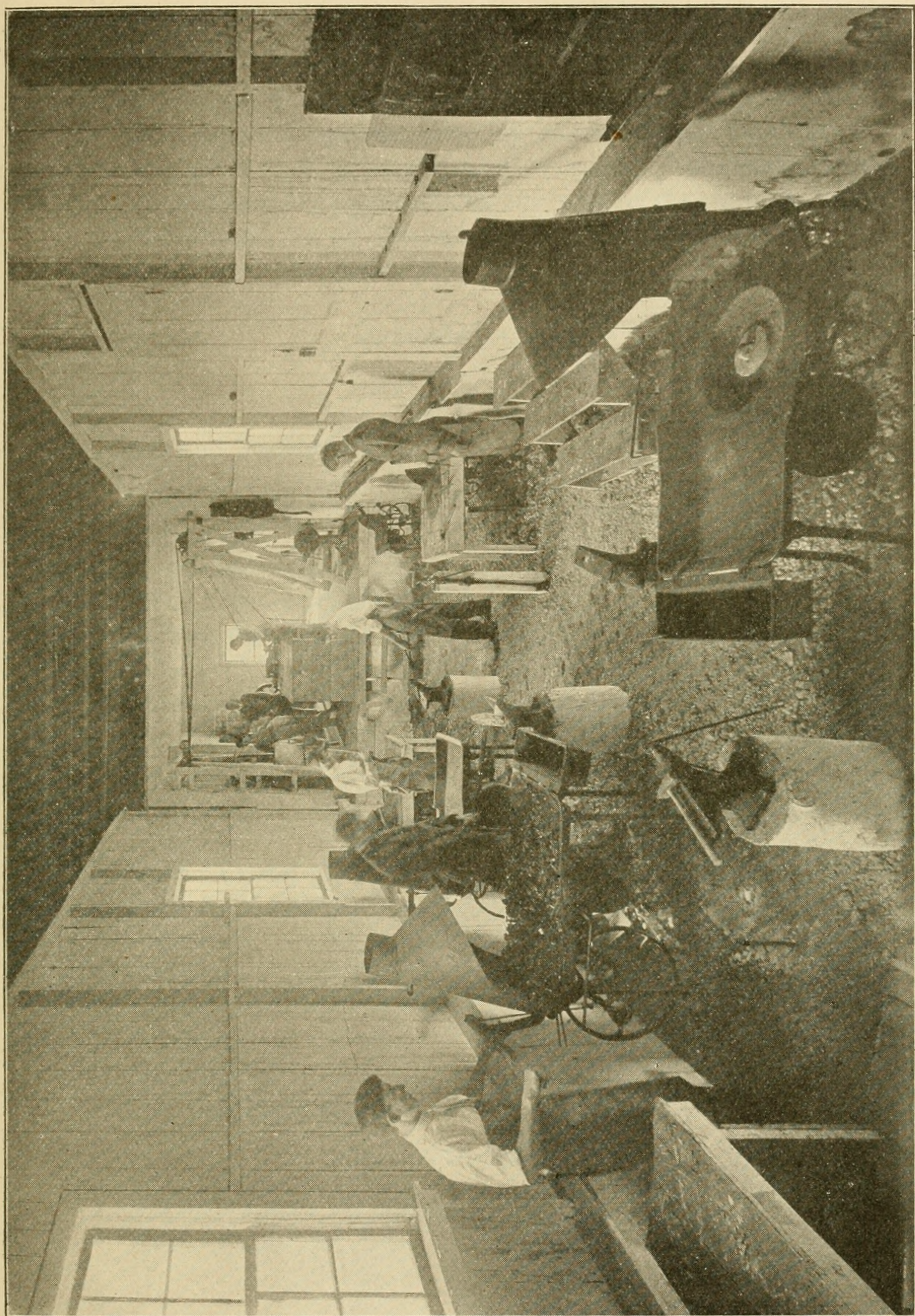
This work consists of a study of the most common fungus diseases of farm plants and of fruits. Their development and methods of preventing same. Laboratory work will consist of collecting diseased plants and making a minute study of same.

Freshman Class.

FORESTRY.

This is a study of the best methods of maintaining the forests, a study of trees, diseases, classification and insect pests.

Junior Class.



SHOP, MINING DEPARTMENT.

VETERINARY SCIENCE.

This includes a thorough study of anatomy of farm animals, the most common diseases affecting these animals, methods of detecting prevention and treatment of same. Laboratory work consists of dissecting and studying the various organs of animals from the standpoint of diseased and healthy conditions.

Senior Class. All year.

FRESHMAN CLASS.

	First Term	Second Term
Lectures and Recitations:		
Math. (1) and (2) -----	5	5
English (1) -----	5	5
Chemistry (Science 1) -----	5	5
Soils (Agronomy) (1) (2) (3) -----	3	
Horticulture (2) -----	3	
Botany (2) -----	2	2
Freehand Drawing -----	2	
Mechanical Drawing -----		2
Zoology -----	2	2

SOPHOMORE CLASS.

Math. (3) and (4) -----	5	5
English (2) and (3) -----	5	5
Science (5) and (6) -----	5	5
Dairying (1) and (2) -----	2	2
Animal Husbandry (1) and (2) -----	1	1
Agronomy (4) and (5) -----	3	
Horticulture -----	2	3
Lob. Soil Physics, Afternoon -----		2

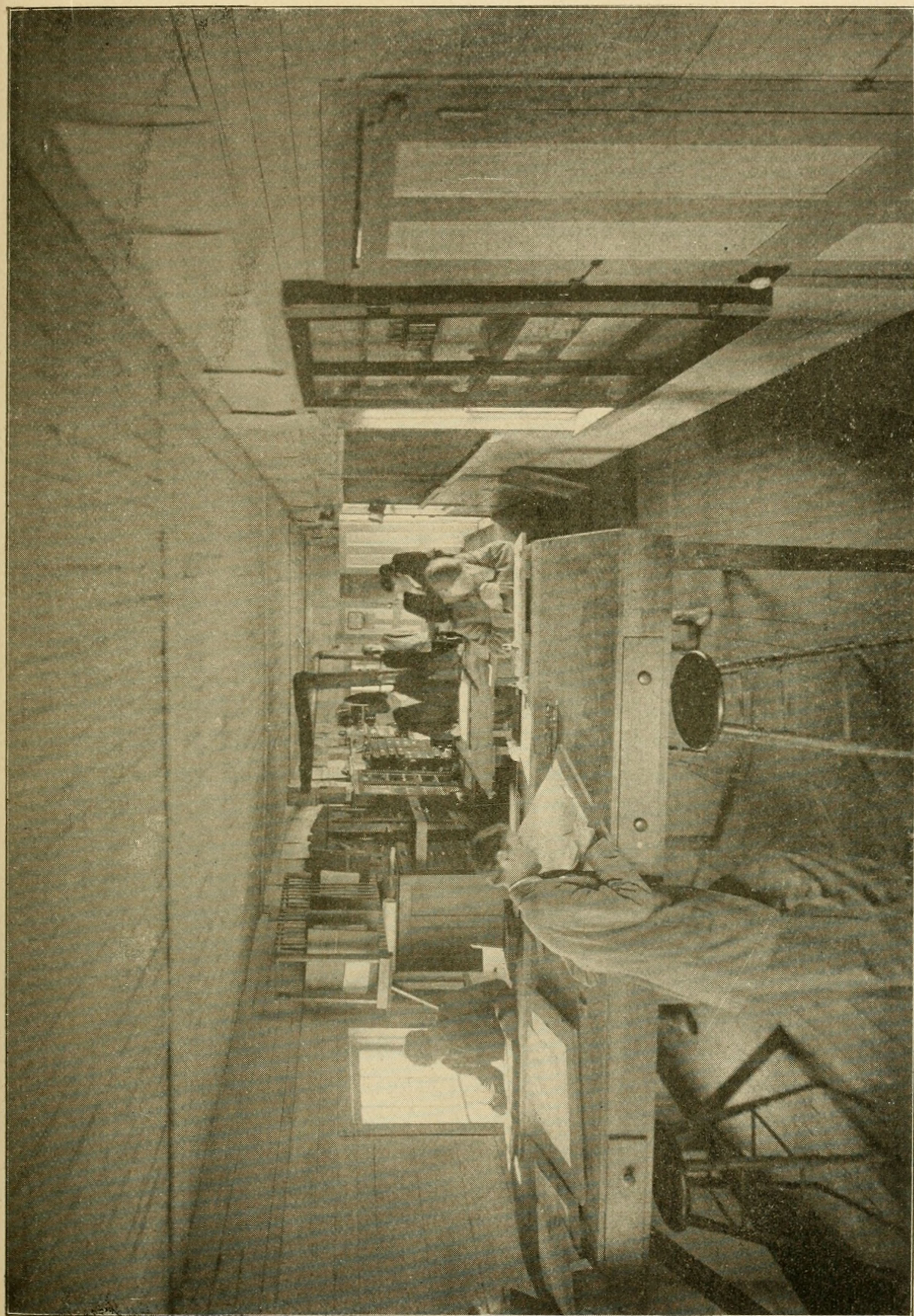
JUNIOR CLASS

English (4) and (5) (optional) -----	3	3
Math. (5) and (6) -----	5	5

	First Term	Second Term
Lectures and Recitations:		
General Geology -----		
History (3) -----	2	2
Stock Judging (Animal Husbandry) (5) ---		2
Agronomy (6) and (7) -----	3	
Animal Husbandry (3 and (4) -----	2	2
Horticulture (3) -----		2
Forestry -----	1	2
Lob. in Spraying of Plants, afternoons -----	2	
Plant Pathology (optional) -----	3	3

SENIOR CLASS

Shop Work on Mondays -----	2	2
English (6) and (7) (optional) -----	3	3
Agri. Chemistry -----	5	5
Horticulture (Plant Breeding) -----	3	
Entomology -----		3
Feeds and Feeding -----	2	2
Vet. Science -----	2	2
(Optional)		
Math. (7) and (8) -----	5	5
Science (5) -----	2	2
Thesis -----		
Bacteriology (optional) -----	3	3



DRAFTING ROOM, MINING DEPARTMENT.

Department of Mining Engineering.

BYRON J. SNYDER, Director.

ARTICLE I—ANNOUNCEMENT.

1. The School of Mines of the North Georgia Agricultural College has been established primarily for the purpose of giving a thorough scientific education, both practical and theoretical, to men studying for the profession of the mining and metallurgical engineer, the assayer, the consulting geologist. The desire is to train men to take more active part in the winning of the mineral wealth of the state and nation.

2. SITUATION.—Dahlonaga is most fortunate as the seat of a mining school. It is situated in the heart of the great gold belt. Within a few hundred yards of the school is situated the fifty stamp mill of the Crown Mountain Gold Mining Co., whose works are always accessible to students of the School of Mines. To the east within walking distance is the plant of the Consolidated Gold Mining Co., a fine example of an up-to-date one hundred and twenty stamp mill. It has in connection an Edwards roasting furnace of a capacity large enough to handle the concentrates from more than 36 vanners. By courtesy of the management the students have access to all these plants.

3. ENVIRONMENT.—The nearer a School of Mines is to a neighborhood of mining, the nearer such a school is to the atmosphere of mining operations, the more potent we find its influence. Nature herself could not have selected a spot more suitable for a mining school than Dahlonaga. Dr. Glenn and the Trustees of the North Georgia Agricultural College have been keenly alert to the existing environment which harmonizes with the work of the mining student both present and future. The mineral possibilities of the country in and around Dahlonaga and especially to the north are very great. Rare opportunities are here offered to the student of mineralogy and geology. Rocks of various geologic age are here extremely well represented and economic deposits of many rare and valuable minerals exist in varied form.

4. INSTRUCTION.—The method of instruction includes lecture, text-book, laboratory and recitation work.

The metallurgical laboratory equipment is especially good, consisting of muffle and wind furnaces, jaw and gyratory crushers, samplers classifiers, gold and silver balances, etc. The course in Assaying and all Metallurgy is especially strong.

5. MINERALS.—A working and a museum collection of hundreds of specimens gathered from home and abroad makes the department of mineralogy extremely interesting.

6. DRAWING.—Mechanical Drawing as applied to all the phases of engineering receives our close attention. The drawing department is well equipped.

7. RESUME.—With all these advantages we feel justly proud and can conservatively proclaim The School of Mines of The North Georgia Agricultural College as offering advantages for the study of Mine Engineering as are rarely met with at any one place.

ARTICLE II—REQUIREMENTS FOR ADMISSION.

1. The classes in the School of Mining are open to all who are proceeding to a diploma or a degree. Students are required to pass the Matriculation Examination or an equivalent thereto, and must follow the courses as hereafter mentioned.

2. REGISTRATION.—All students are required to show their entrance tickets and paid up laboratory fees before they will be registered for work in this course.

3. ADMISSION BY EXAMINATION.—Students who desire to become candidates for a degree are admitted on examination in the following subjects:

English.

Arithmetic and Metric System.

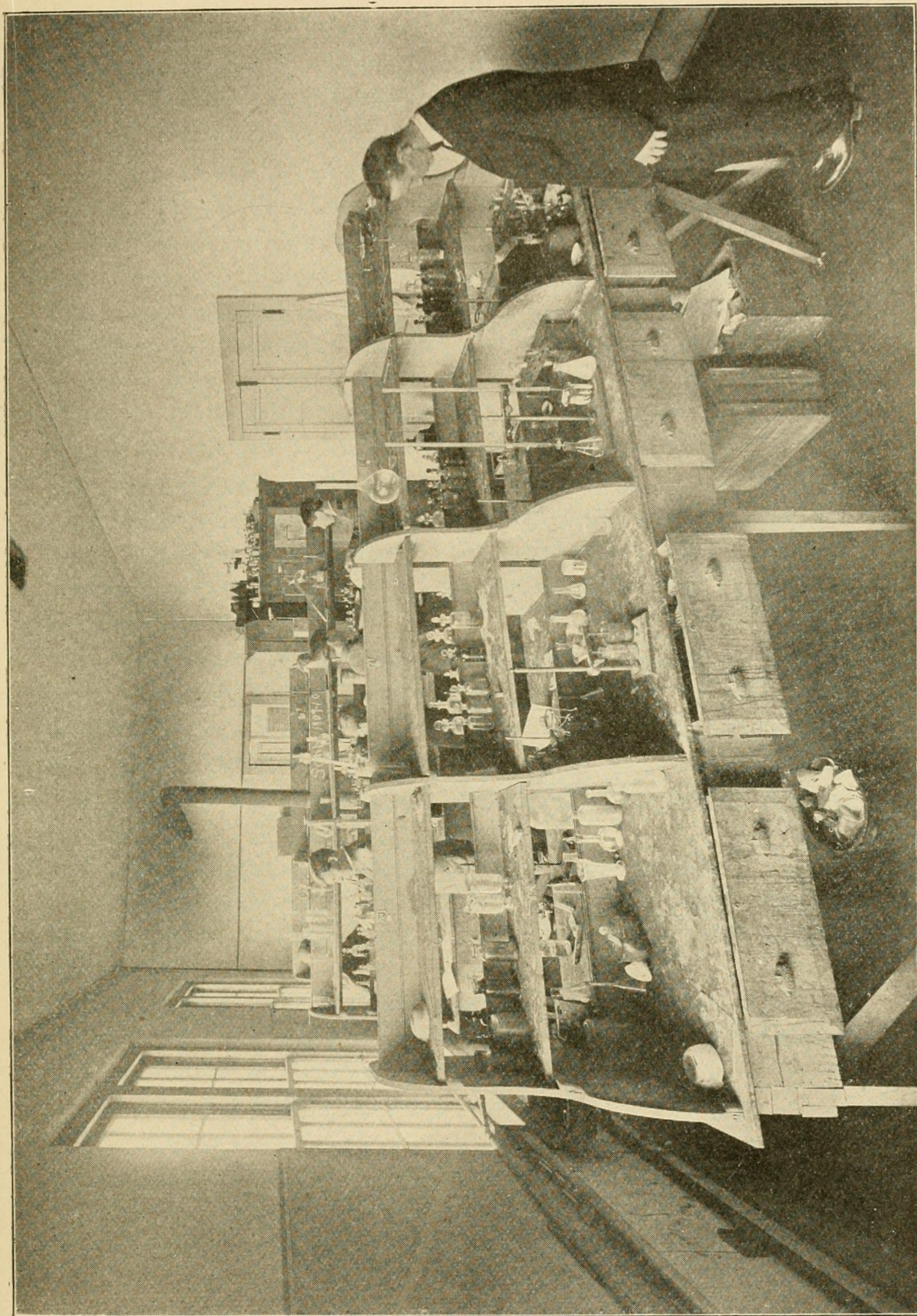
Bookkeeping.

Algebra, through Quadratic Equations.

Geometry—Plane, Solid and Spherical.

Physics or Chemistry.

French or German.



CHEMICAL LABORATORY.

4. ADMISSION BY DIPLOMA.—Candidates who are graduates of the proper course of a high school, the grade of whose work is on a par with that of this institution, will be admitted upon presentation of diploma.

5. ADMISSION TO ADVANCED STANDING.—Graduates of approved colleges are admitted upon presentation of their diplomas or certificates of graduation.

6. SPECIAL ARRANGEMENTS.—In many cases persons who have been engaged in practical work and desire to better their condition by systematic training and who are not candidates for a degree may be permitted to take special studies. Such men often prove to be among the best students, since they realize clearly the purpose of their work and the value of time.

7. ATTENDANCE.—Students are required to attend 80% of class lectures before permission will be given to write on examinations, and 80% of laboratory hours before work will be certified. Exemption from this rule can be obtained only on application to the faculty.

8. COURSES.—All students must take the subjects required in their courses in conformity with the calendars of their years of attendance. If a student wishes to change his course he must first obtain permission of the faculty.

9. DEGREES.—The School of Mines offers the degree of Engineer of Mines, E. M.

The conditions under which this is given are as follows:

To obtain this degree the student must have been a resident student of this institution for at least one full year prior to graduation.

All students for the above degree of Engineer of Mines are required to have had at least two years training in both Geology and principles of Mining.

The course is strictly a four years course.

10. THESES.—All seniors in the E. M. course carry on special investigations during the spring term and the results are embodied in a thesis. This work must be of a mining or metallurgical character, and is under the direct supervision of the professor in

charge. Each senior shall submit to the faculty not later than Jan. 15th. a thesis title which must be approved by the instructor concerned. The submitted thesis must be of typewritten form on nine by eleven inch paper bound in pamphlet or book form, and must be handed to the director not later than May 15th. This thesis is filed with the librarian as a permanent record for future reference. No Mining student can receive his degree without having handed in an acceptable thesis.

11. EXCURSIONS.—Part of the course consists of visiting mines, dredges and metallurgical industries in the vicinity of Dahlonega where practical information may be had. Short trips of one day's duration are quite frequent, while at some time during the year a more extensive trip is taken by the upper classmen of this course; usually to a noted mining section of the south. While on these trips the geology of the section is thoroughly investigated. All students of the E. M. course are required to take these excursions. Expeditions of this kind afford the student abundant opportunities for collecting data, materials suitable for memoirs theses, etc.

ENGLISH

There is a growing appreciation of the value, in practical affairs, of the ability to use language with ease, clearness, and forcefulness. The importance of English composition as a mental gymnast is being acknowledged as never before, and more and more instructors in technical schools are recognizing the fact that it is an essential part of an engineer's education.

NOTE: See department English 5 and 6.

MATHEMATICS.

Too much stress cannot be laid upon the study of mathematics for the mining engineering student. It is very essential that a mining engineer be able to cope with the mathematical engineering problems that confront him in the practical world. To do this it is necessary that the student make application of himself thoroughly so that he may become as efficient as possible for the

profession that he intends to follow (Mining Engineering). Without mathematics it is impossible to become a success in this line of work.

(See Department of Mathematics).

MECHANICAL SECTION,

1. MECHANICAL DRAWING.—All efforts during the early part of the work are directed toward making the student thoroughly acquainted with, and exercised in, the proper use of his drawing instruments and drafting supplies in general. The work then proceeds with mechanical and free-hand lettering, line shading, tinting, shading with tints and conventional tints for different materials. There are eight of these mechanical sheets, a title page for the mechanical sheets and a title page for the descriptive geometry sheets. These two title pages may be a part of the second term's work.

It is desirable that students taking preparatory work in the lower courses, take an elementary course in this work such as given for the B. S. students. (Optional)

The instruction in the art of drawing is designed to give prominence to such branches of the subject as are of most value to the practicing engineer. It is required that the instruments used shall be of the best. The following are required:

- One $5\frac{1}{2}$ -inch compass.
- One $3\frac{1}{4}$ -inch bow spacer.
- One $3\frac{1}{4}$ -inch bow pencil.
- One $3\frac{1}{4}$ -inch bow pen.
- One 5-inch ruling pen.
- One 30° 60° triangle.
- One 45° triangle.
- One curve.
- One 30-inch T square.
- Two bottles of ink.
- Eight thumb tacks.
- Three rubbers.
- Two pencils.

Twelve pens.
One penholder.
Penwipers.
Chamois.
Cloth board-covers.
One file pencil-sharpener.
One 15-inch adjustable curve.
One 12-inch white-edged scale.

CIVIL SECTION.

1. SURVEYING—Instruction is given in the theory of the adjustment of the transit and level, the principles of land surveying, topographical surveying and railroad work. The theory of the Plane Table and also that of the Aneroid Barometer are given.

TEXT-BOOKS: Johnson's "Theory and Practice of Surveying." Pence and Ketchum's "Surveying Manual."

(a) FIELD SURVEYING—The course consists in adjusting instruments, traverse surveys, calculation of areas and distances, stadia work and the laying out of a short railway line. All the problems are plotted in the office and the calculations made in a regular book kept for that purpose.

Sophomore year, second term.

(b) MINE SURVEYING—Under this head will be considered the theory of the determination of the true meridian by means of the various solar attachments and by direct observation of the sun and of a circum polar star; a careful discussion of the principles and methods used in locating and patenting mining claims, and in underground surveying, will be given. The lectures delivered on these subjects enter into the detail with which they are connected and touch upon the Mining Law relating to surveyors and the patenting of mining property. The remaining time will be devoted to the outlines of the subject of geodetic surveying.

Sophomore year, second term. Two hours.

2. THEORETICAL MECHANICS—This course consists of the